

Vehicle and Machinery INSPECTION PROCEDURE

Biosecurity Queensland Checklists 2013



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GENERAL INFORMATION

Purpose

These inspection procedures are designed to implement a consistent approach across Queensland for the inspection of vehicles, equipment and machinery. This will allow persons to carry out a thorough routine inspection of these items to reduce the potential for the spread of weeds and their reproductive material. This document may also assist users of an inspection service to understand and fulfil their requirements, comply with legislation and address their duty of care.

Background

The movement and transport of machinery, vehicles and equipment that are contaminated with weed seed is a source of spreading declared plants from infested areas to weed free locations or areas with minimal infestations. This form of spread has the potential to move declared pest plant's reproductive material over long distances from the original source or a core infestation area.

Many isolated outbreaks in Queensland are a result of poor vehicle, machinery and equipment hygiene. As a result there have been many new outbreaks that have now spread beyond controllable methods.

Each year numerous outbreaks of parthenium weed are discovered along roadsides after viable seeds have fallen from contaminated vehicles.

There is an ongoing risk that weed seeds will fall from contaminated machinery or vehicles on private properties or remote locations and go undetected resulting in a major outbreak that cannot be contained.

There is a need for competent and consistent inspection of vehicles, equipment and machinery from service providers, companies and industry to meet client demands and satisfy legislative obligations and address their relevant duty of care and client requests.

Weeds cost Queensland \$600 M in lost production, land degradation, control costs and the spread of weeds continually threatens our primary industries, environment and social amenity.

The potential for litigation is a real threat for industry groups and government departments as acts of negligence and failures in "duty of care" have the potential to result in legal action or large compensation settlements.

Possible sources of contamination

- Heavy machinery may contain weed seed contaminated mud on the tracks, tyres or attached implements (e.g. dozers, excavators, graders).
- Farm machinery and vehicles that have been used in infested paddocks are at risk of contamination via mud on wheels, seeds trapped in radiators, cabin floor mats (e.g. tractors and 4WD).
- Implements such as slashers, ploughs, mulchers, post-hole diggers may be contaminated with weed seeds after being used in infested paddocks and should be cleaned prior to moving to other areas.
- Harvesting machinery and headers may contain weed seed in augers, bins and behind guards from harvesting crops that are infested with weeds.
- Wheeled loaders, mining and construction equipment may contain contaminated mud trapped on these items.

- Cars, trucks and 4WD that have driven off-road through weed infestations may contain weed seed caught in the radiator, mud guards, tyres and underbody.
- Trucks that have transported livestock from infested areas may contain viable seed that has fallen or been passed through stock (e.g. prickly acacia, giant rats tail grass).

Areas of higher risk

Vehicles, machinery and equipment driven or operated in certain areas of Queensland have a higher risk of becoming contaminated with the reproductive material of weeds because of certain pest plants that occur in those areas for example:

- Vehicles, machinery and equipment that have been used, driven or sourced from the Central Highlands are at greater risk of being contaminated with parthenium weed seed.
- Coastal and sub-coastal areas from the New South Wales border to Rockhampton, and areas near Moura, Mackay, Townsville, Ingham and Mareeba contain current infestations of giant rats tail grass.

Generalised distribution maps of all Queensland's declared pest plants are available on the department's web site www.daff.qld.gov.au. However, persons with specific local knowledge should be consulted such as land owners, local government weed officers and state biosecurity officers.

Legislative obligations

All declared pest plants, require consideration in regards to preventing the spread of their reproductive material. Some such as parthenium weed and giant rat's tail grass being prolific seed producers are highly competitive and form dense infestations that are a high risk for contaminating with their seed, vehicles or machinery that are driven or operated in these infested areas. Others such as mother of millions reproduce from leaves and fragments of stems.

Section 46 of the *Land Protection (Pest and Stock Route Management) Act 2003* states

“Moving or transporting vehicles and other things on roads

- (1) *This section applies to a person who moves or transports a vehicle or other thing on a road if the person knows, or ought reasonably to know; soil or other organic material in or on the vehicle or thing is likely to contain the reproductive material of a declared pest plant.*
- (2) *The person must not, without reasonable excuse, move or transport the vehicle or thing unless the person has taken reasonable steps-*
- (a) *to restrict the release of the reproductive material when the vehicle or thing is moved or transported; or*
- (b) *to ensure the vehicle or thing is free of the reproductive material.*
- Maximum penalty—200 penalty units.”*

reproductive material of an animal or plant means any part of the animal or plant that is capable of asexual or sexual reproduction.

Examples of reproductive material of a plant—

- 1 *seed or part of seed*
- 2 *bulb, rhizome, stolon, tuber or part of a bulb, rhizome, stolon, tuber*
- 3 *stem or leaf cutting*

vehicle means anything used for carrying anything or any person by land, water or air, and includes equipment or machinery capable of moving on land.

road includes an area—



- (a) dedicated to public use as a road; or
- (b) open to or used by the public and is developed for , or has as one of its main uses, the driving of motor vehicles.

How to minimise the risk of transporting weed seeds on vehicles and machinery

The following are some suggested ways to minimise risk (this is not a exhaustive list):

- Avoid driving off the road in areas known to contain declared pest plants such as giant rat’s tail grass, parthenium weed or other that present a risk of vehicle or machinery contamination.
- Do not drive through infested paddocks.
- Ensure clothing and footwear are free of mud and seeds before stepping back into vehicles.
- Avoid driving or working in contaminated areas in wet or dewy conditions.
- Clean vehicles, machinery and equipment suspected of carrying weed seed.
- Work clean areas or start in areas with the least amount of infestation and work towards infested or high density areas.
- Keep roads, laneways and buffer zones free of weeds.
- Where possible work infested areas separately and cleandown prior to moving between areas.
- Avoid slashing and other works through infestation during peak seed production times.
- Clean down machinery and implements before proceeding into clean areas.
- Secure loads (e.g. grain, fodder) if they are suspected of containing weed seed.

Training

All persons undertaking vehicle or machinery inspections will undertake competency based inspection training and receive a satisfactory assessment before inspecting any vehicle or machinery.

Competency Criteria

After completing competency based training, such as module AHC BIO201A ‘Inspect and clean machinery for plant, animal and soil material’ provided by a Registered Training Organisation (RTO); a person will be able to:

Element	Performance criteria
1. Check machinery and support vehicles	2. Machinery and equipment are checked for contamination according to written guidelines and legislative requirements. 3. Machinery and support vehicles are made safe for checking, supported safely, with free moving parts pinned or supported as required. 4. Covers and guards removed safely. All points identified in legislation or operating procedures are identified and inspected for contamination.
2. Clean machinery and	1. Machinery is made safe for cleaning, supported safely, with free moving parts pinned or supported as required.



equipment	<ol style="list-style-type: none"> 2. Correct equipment for cleaning selected. 3. Points listed in appropriate regulations, checklists or enterprise procedures are cleaned and checked. 4. Guards replaced safely and checked. Areas on other equipment likely to accumulate contaminants identified, inspected and cleaned
3. Report inspection results	<ol style="list-style-type: none"> 1. Waste materials are disposed of according to enterprise operating procedures and relevant legislative requirements. 2. Records of cleaning are recorded on appropriate forms according to enterprise policy and procedures.

What is an inspection

Some weed seeds such as parthenium weed seed and grass seed is small and can lodge behind or within many mechanical or structural components of machines. An inspection involves a competent person examining the vehicle, machinery or equipment presented for inspection to ensure it has been adequately cleaned to reduce the potential for weed spread. An inspection cannot guarantee that an item is free of weed seed due to:

- Inaccessible areas that may not be visible during cleaning and inspection.
- Holes or rusted parts where weed seed may be located and go undetected.

Why

The objective of the cleandown and inspection of vehicles, machinery and equipment is effective risk management. It cannot eliminate risk.

- Cleaning and inspection indicates that a person has *“taken reasonable steps to ensure the vehicle or thing is free of the reproductive material”* to satisfy legislative requirements.
- There is an ongoing demand for inspections to be carried out to ensure adequate precautions have been taken to reduce the potential for introducing weeds and declared plants into areas with minimal or no infestations.
 - Landholders are demanding that exploration and mineral companies complete cleandowns and inspection prior to commencing work or projects on their properties.
 - Some organisations demand cleandown of their contractor’s vehicles and machinery prior to entering job sites.

Who

- Any person who has the appropriate competency to conduct inspections.

Safety and location

- The area where the inspection is to be conducted must be a safe working area for the person completing the inspection and all others present.
- Consideration must also be given to surrounding traffic conditions.

- The inspector must wear adequate protective clothing (appropriate footwear, eye protection).
- The vehicle or machinery must be made safe by turning off ignition, engaging the parking brakes and other locking devices for any free moving parts.
- This location must be free of mud and water to allow the inspection to be carried out avoiding re-contamination of the item.

Equipment

- Torch
- Screwdriver
- Putty knife
- Endoscope
- Mirror

Inspection Process

3. The client contacts the inspector to arrange the date and time for the inspection and to provide details of the items being presented for inspection.
4. The item must be cleaned by the client prior to being presented for inspection.
5. The client should be encouraged to clean down on site/farm or at an approved cleandown facility (refer to Vehicle and Machinery Cleandown Procedures Biosecurity Queensland Checklists 2013).
6. The inspector shall direct the person in charge of the item/s to an appropriate location for inspection taking into consideration traffic conditions and personal safety of those present.
7. The machine must be completely switched off and the inspector shall not attempt to enter or inspect machinery unless another person is present.
8. First confirm that the description and identification numbers of all items to be inspected are correct. Record the identification number and odometer or operation hours on the inspection form.
9. An inspector may request the operator to remove guards or standard inspection plates or to position moving components of the item as necessary to facilitate inspection.
10. A separate inspection form shall be completed for each item to indicate parts of the item that have passed or failed the inspection.
11. Every relevant part listed on the inspection form must be checked to a sufficient degree to determine whether or not the part has been cleaned and is free of soil and plant material.

Important points to check are:

- a) between dual wheels/rims, muffler surrounds, wheel guards and mud guards;
 - b) spare tyres, toolbox, tracks and track frames;
 - c) turret pivot areas and axle beams;
 - d) engine bays where grease and oil stains may accumulate soil and plant material in the residue;
 - e) radiators;
 - f) the underside of the machinery (guards and belly plates should be removed for inspection);
 - g) hollows, crevices and exposed welded plates;
 - h) the interior of the cabin.
12. If the inspector is satisfied that the part has been cleaned the form should be completed.
 13. If the inspector is not satisfied that the part has been sufficiently cleaned, the nature of the problem must be briefly noted on the Inspection Form.
 14. If only minor additional work is required (material shaken down during transport) then the inspection may be completed once that contaminant has been removed.
 15. If the item is in not free of soil and plant material the inspection the driver/operator should be directed to carry out further cleaning of the relevant areas.
 16. Should the item be failed, it must be cleaned and reinspected at a later convenient time/date for all parties. A new inspection checklist and inspection form will be issued.

17. On completion, an inspection form/certificate will be issued to the person in charge of the item and a duplicate retained by the inspector.

Remember, the key to a successful inspection is more than just checking the above areas – you must ensure that your inspection is thorough, systematic and consistent.

INSPECTION CHECKLISTS

Checklist - Cotton pickers		
Inspect the following areas as an initial guide:		
Row units:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Examine the picking heads externally for cotton trash or soil and plant material. Open all picking head inspection doors to expose moisture racks, doffers, spindle bars and rotor assemblies Manually rotate and inspect the rotor assemblies Open rear inspection doors on air ducts located at rear of picking heads Raise picking heads to inspect underside. <p>Note: the picking heads are held up by hydraulics – DO NOT climb, underneath unless heads are safely blocked in the raised position.</p>		
Driver's cabin:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect externally under and around drivers cab. Inspect under mats or carpets in cab. Inspect the air conditioning system (where fitted) including ducts and filters. 		
Horizontal air ducts	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Remove/open all cover inspection panels (these ducts convey cotton from the front picking section to the basket). 		
Basket:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect basket roof. Access the internal parts of the basket through hinged door on the roof (ladder required to climb into the basket). Tip or elevate basket (depending on model) to inspect underside, drive shaft assemblies, blower fan, and hollow basket support frames located on the LHS of some models. <p>Note: The meshed surface area of the basket will NOT support a person's weight – walk on the perforated metal walkways ONLY which run from back to front of the machine. The basket is lifted by hydraulics – DO NOT climb under basket unless it is properly and safely secured in its raised position.</p>		
Inspect air ducts from the top		
Undercarriage/chassis:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect all underside of machine, Chassis rails and telescopic rear axle if fitted 		

Engine:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Remove cover panel to expose top of radiator (this can be done when basket is in raised position). • Remove or open all screens on the engine, radiator and fuel bays. • Inspect radiator core and grill. • Inspect for void between oil cooler and radiator (oil cooler may be hinged or on slide). • Remove and inspect air filters/cleaners, pre-cleaners and cyclone style dust separators. • Inspect sound deadening foams and heat shields for soil and plant material (foams become impregnated with dust). 		
Tyres and rims:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Inspect all parts of tyres and rims, including inner side of rim • Inspect between dual wheels (if fitted). • Check for wheel mounted counter – weights. • Inspect gashes or cuts in tyres. 		
All other areas:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Inspect any sections or channels that are hollow and determine if there is a possible entry point for contamination. • Inspect behind any plates that are covering a compartment or space that may have collected soil and plant material. 		

Checklist - Wheeled tractors

Inspect the following areas as an initial guide:

Tyres and rims:

Pass

Fail

- Inspect all parts of tyres and rims, including inner side of rim
- Inspect between dual wheels (if fitted).
- Check for wheel mounted counter – weights.
- Inspect gashes or cuts in tyres.

Engine:

Pass

Fail

- Inspect radiator core and grill.
- Inspect for void between oil cooler and radiator (oil cooler may be hinged or on slide).
- Remove and inspect air filters/cleaners, pre-cleaners and cyclone style dust separators (if unable to clean satisfactorily, these may require destruction).
- Inspect sound deadening foams and heat shields for soil and plant material (foams become impregnated with dust).

Drivers cab (where present):

Pass

Fail

- Inspect externally under and around drivers cab.
- Inspect under mats or carpets in cab.
- Inspect void space and skirt under suspended seats.
- Inspect air conditioner filters (if fitted), (large tractors may have a false cabin roof housing the air-conditioner unit, remove or open false roof).
- Inspect integrity of rubber door and window seals, if torn, soil and plant material will be sucked into them and trapped.
- Inspect void space behind consoles and dash for soil and plant material residues.

Chassis and vehicle body:

Pass

Fail

- Inspect inside of chassis rail ledges and back axle-beam and undercarriage of this area.
- Inspect for hollow sections in front axel tubes. Inspect all tool boxes and battery boxes often under the cab steps or in engine bay.
- Inspect for void spaces in rear brake assemblies. Hollow sections in drawbars and hollow sections in retractable/extendable type three point linkages.
- Inspect single counter-weights; multiples may need to be removed to facilitate inspection of void spaces.
- Inspect mud guards and wheel flares for hollows and crevices.
- Inspect roll cages or roll over bars for holes and gaps where attached to the vehicle.
- If 4WD drive, check for torque tube (front drive shaft guard) for holes or poor attachment.
- Inspect PTO (Power Take Off) area, PTO shaft, universal joints, and shaft covers/PTO tubes.



<ul style="list-style-type: none"> Inspect wiring looms and split protective conduit for soil and plant material residues. <p>Note: some agricultural tractors will have a rear carry-all mounted on the three point linkages or a forward mounted forklift or bucket/scoop attachment – these should be inspected carefully. Particular attention should be given to the following:</p>		
Buckets, blades, scoops, carry all, forklift:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect all areas of the blade for holes or double skins. Inspect and remove cutting teeth, adaptors and wear plates on blades. Inspect hydraulic arms and supports for hollows that may contain soil and plant material. 		
All other areas:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect any sections or channels that are hollow and determine if there is a possible entry point for contamination. Inspect behind any plates that are covering a compartment or space that may have collected soil and plant material. 		

Checklist - Implements – PTO rotary hoe

The following areas highlight some of the main areas of concern on Power Take-Off (PTO) driven rotary hoes:

<ul style="list-style-type: none"> Inspect rotary tynes and mounting bolts for soil, tynes may need to be removed or loosened from their adaptors on the horizontal shaft to allow removal of soil from the void. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Remove or loosen the skid/wear plate from the vertical gear casing (note that this casing is oil filled, thus remove or loosen only those bolts securing the plate). 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect the body of the hoe for double skins or void spaces that could contain soil due to inadequate or incomplete weld joints etc. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect all areas where mud flaps are attached or plates overlap. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Check for hollow section reinforcing ribs. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect the three point linkage attachment points and PTO knuckles and tube, universal joints and shafts. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect all ground engaging areas of the hoe for signs of wear for the ingress of soil or plant material. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Rotate the rotary shaft and probe for plant material that may be caught in the bearing housings at the ends or middle if twin shafted. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect the frame and supports and mounts for the trailing wheels – these are often hollow sections. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect the trailing wheels for the rotary hoe, these wheels are usually hollow and made from two pieces of metal welded together – with wear the metal and welds crack and the wheels fill with soil. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>

Checklist - Track type dozers

Drivers cab	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect externally under and around driver's cab. Inspect under mats or carpets in cab. Remove/lift seat; remove/lift floor pans to allow inspection of top of transmission. Inspect air conditioner filter (if fitted) – shake/tap filter to check if clean. 		
Tracks/track frame	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Examine tracks carefully. Ensure inspection/cover plates are removed to allow inside track area. Check idler wheels (these support the tracks). 		
Belly plates	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Should be removed to allow inspection. 		
Rear plates	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> At back of dozer should be removed to allow inspection. 		
Hydraulic cover plates	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Should be removed to allow inspection. 		
Engine	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect radiator core and engine area for residues. Remove and inspect the air filter/cleaner. Inspect the void space between the oil and radiator cores. 		
Battery box	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Lift/remove the battery to inspect for contamination (battery box may be at side/rear or under seat). 		
Fuel cells	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Are removable therefore soil and plant material can pack between the tank and the frame. 		
Blade	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Ensure that edge of blade top/bottom is not split – this allows soil to be packed very tightly in the hollow. Inspect cutter points/wear blades. 		

<ul style="list-style-type: none"> Inspect truncation arms. Inspect the pivot points and adaptors at the rear of the front blade – these allow the blade to change height and angle. Sometimes soil has compacted and is difficult to dislodge. Inspect all hollow sections. 		
Ripper support frame	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect Frame if hollow if any contaminants have entered this section. The tynes may need to be removed. 		
Tynes	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Tynes need careful inspection. 		
Ripper points	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect any pin holds on the ripper points. 		
All other areas	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Check if any sections or channels are hollow and determine if there is a possible entry point for contamination. Check if plates are covering a compartment or space that may have collected soil and plant material. 		

Checklist - Mini tractors

Inspect the following areas:

Tyres and rims:

Pass

Fail

- Inspect all parts of tyres and rims, including inner side of rim.
- Check for gaps in split type rims.
- Inspect cuts and gashes in tyres.
- Inspect wheel mounted counterweights.

Chassis:

Pass

Fail

- Inspect inside of chassis rail ledges.
- Carefully inspect the chassis for hollow areas and cover plates that may conceal void spaces.
- Inspect void spaces in the area between gearbox and engine (several models have a large void opening accessible from underneath).
- Inspect void spaces in counter-weights, multiples may need to be removed to facilitate cleaning.
- Inspect hollow sections in subframe under motor linking the chassis rails.

Engine:

Pass

Fail

- Remove grill (usually 2 wing nuts), inspect and remove wire mesh screen from front of radiator, inspect fan shroud at rear of radiator.
- Remove and inspect air filter cover, remove dust dish from air filter cover, remove and check air filter/cleaner (if unable to be cleaned satisfactorily, these may require destruction).
- Inspect around fuel tank and brackets for soil and plant material buildup.
- Inspect all areas in bonnet and in engine bay for hollows.

Other areas:

Pass

Fail

- Inspect external rear brake assemblies and common shaft for brake and clutch pedals.
- Inspect foot plates and mounting brackets.
- Inspect hollow sections in mudguards, joints between mud flaps and guard, wiring looms under guards.
- Inspect tool box under seat or under fuel tank, remove contents if necessary.
- Inspect torn seats and exposed foam at rear of seat (soil and plant material can become lodged in the cushioning).
- Inspect rear axels for track width adjustment pin holes. Inspect the drawbar and mounting.
- Inspect the three point linkages and operating levers.

Checklist - Excavators

Inspect all areas, with special attention to:

Cabin:

Pass

Fail

- Inspect any rubber floor mats and floor surface.
- Inspect all door rubbers, internal door panelling and windowsills.
- Remove cabin wall lining and clean behind.
- Remove and clean under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Inspect all air-conditioning vents, including air-conditioning filter – may have to remove panelling
- Inspect cleanliness of cabin roof, both inside and out.
- Inspect ladder to cabin, if applicable (may have hollow frame) and under each footstep.
- Remove all light covers and inspect cavity behind.
- Inspect any drainage holes in cabin housing flush to verify clean.

Body & Engine Bay:

Pass

Fail

- Inspect air-filter and pre-cleaner.
- Inspect all surfaces of engine block including between tappet covers.
- Clean inside fan-belt flywheels (harmonic balancer).
- Remove all non-affixed engine covers to allow access and inspect all surfaces.
- Check engine covers for hollow support framework - flush to verify clean.
- Inspect either side of radiator for vertical hollow support structures. Flush to verify clean.
- Check all wiring harnesses for internal cleanliness.
- Counterweight – on some models the counterweights must be removed to allow inspection.
- Batteries - Loosen batteries and inspect under.
- Flush radiator and oil cooler from both sides to verify fin/core cleanliness.
- Check to ensure that sump and engine block is clean.
- Check all lights and cavities behind.

Tracks, Rollers & Frame:

Pass

Fail

- Track Rock guards – must be removed to allow access to inside track frames.
- If rock guards have been removed, check where bolts attach to frame as it may be a hollow cavity, which requires flushing.
- Individual rubber track pads removed (if applicable – small excavators).
- Motor cover plates to be removed and inspect inside drive motor.
- Rollers – each countersunk bolthole must be individually cleaned.
- Track frame ends – are hollow and require flushing to verify.
- Remove all non-affixed covers & plates.
- Roll tracks – one revolution required to inspect cleanliness of each track pad & countersunk bolts on rollers and idler wheels.
- Inspect behind sprockets (all excavators).
- Inspect spring adjuster inside track frame.



<ul style="list-style-type: none"> Carrier roller above tracks – can have hollow support structure, which requires checking. If excavator has telescopic tracks (generally small excavators), ensure these are extended. Inspect all internal ledges and hollow cavities inside track frames. 		
Boom Stick & Bucket:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Check front and backside of bucket for any cracks, splits or evidence of repair. If any detected, the inside will need to be verified clean. Remove all non-affixed wear plates. Flush spot-welded wear plates on back of bucket. All cutting teeth to be removed from bucket (Boots) and blade Boom arm (maybe hollow and necessitate removal of external non-affixed plates). All knuckles must be cleaned (remove all contaminated grease). 		

Checklist - Wheeled loaders

Check all areas, with particular attention to the following:

Driver's Cabin:

Pass

Fail

- Inspect any rubber floor mats and floor surface.
- Remove and inspect all door rubbers, internal door panelling and all windowsills.
- Remove and inspect under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Remove rubber pedal covers and inspect.
- Remove cabin wall lining and inspect behind.
- Inspect all air-conditioning vents, including air-conditioning filter – may have to remove panelling.
- Check cleanliness of cabin roof, both inside and out.
- Check for false floor under cabin and remove for cleaning, if applicable.
- Clean ladder to cabin (may have hollow frame) and under each footstep.
- Remove all light covers and check cavity behind. Clean if required.
- Check if the cabin housing can be flushed via drainage holes.

Engine Bay:

Pass

Fail

- Inspect all surfaces of engine block including between tappet covers.
- Remove air-filter and pre-cleaner and inspect.
- Inspect inside fan-belt flywheels (harmonic balancer).
- Remove belly plates if applicable and inspect.
- Remove all non-affixed engine covers to allow access and inspect all surfaces.
- Check engine covers for hollow support framework - flush to verify clean.
- Remove all engine cover rubbers and inspect.
- Chassis rails either side of engine are hollow and maybe flushed via drainage holes on underside of the rail (Access maybe provided once belly plate bolts have been removed).
- Check battery boxes either side of engine. Loosen batteries and inspect under.
- Inspect radiator and oil cooler from both sides to verify fin/core cleanliness.
- Check either side of radiator for vertical hollow support structures. Flush to verify clean.
- Check all wiring harnesses for internal cleanliness.
- Check under all hydraulic looming for cleanliness.
- The fuel cell generally sits below the radiator and engine – inspect all surface of the fuel cell.
- Check support arm behind diff – can be hollow and harbour contamination.
- Ensure all rubber engine mounts are clean.
- Inspect all surfaces of axels and differential.
- Inspect to ensure that sump and engine block are clean.
- Check all lights and cavities behind.

Front End and Bucket:

Pass

Fail

- Remove front housing cover plate to allow better access to hydraulics.
- All cutting teeth to be removed from bucket (Boots).



<ul style="list-style-type: none"> • Remove all non-affixed wear plates from the bucket. • Check front and backside of bucket for any cracks, splits or evidence of repair. If any detected, the inside will need to be verified clean. • Check light mounts on front wheel arches – if applicable, these areas are generally hollow and require inspection. • Bucket push arms are generally sealed units, however best to check for hollow areas or drainage points. • Flush spot-welded wear plates on back of bucket. 		
Tyres & Rims:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check each tyre for cracks or splits. • Inside wheel rims may require plates to be removed to access brake drums - remove and clean thoroughly. 		
Other areas requiring cleaning:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check all wheel arches for hollow support framework – may also have to loosen from chassis to clean where arch joins frame. • Inspect all surfaces of oil tank – generally near ladder to cabin. • Inspect under all non-slip checker-plate surfaces. • Rear drawbar generally hollow – remove towing pin and inspect hollow drawbar if applicable. 		

Checklist - Compactors

Check all areas, with particular attention to the following:

Driver's Cabin:

Pass

Fail

- Inspect any rubber floor mats and floor surface.
- Inspect all door rubbers, internal door panelling and all windowsills.
- Remove and inspect under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Remove cabin wall lining and inspect behind.
- Inspect all air-conditioning vents, including air-conditioning filter – may have to remove panelling to enable cleaning.
- Check cleanliness of cabin roof, both inside and out.
- Check for false floor under cabin and remove for inspection, if applicable.
- Inspect ladder to cabin (may have hollow frame) and under each footstep.
- Remove all light covers and check cavity behind.
- Inspect any cabin housing drainage.

Engine Bay:

Pass

Fail

- Inspect all surfaces of engine block including between tappet covers.
- Inspect air-filter pre-cleaner.
- Inspect inside fan-belt flywheels (harmonic balancer).
- Remove belly plates if applicable and inspect.
- Remove all non-affixed engine covers to allow access and inspect all surfaces.
- Check engine covers for hollow support framework - flush to verify clean.
- Remove all engine cover rubbers and inspect.
- Chassis rails either side of engine are hollow and maybe flushed via drainage holes on underside of the rail (Access maybe provided once belly plate bolts have been removed).
- Check battery boxes either side of engine. Loosen batteries and inspect under.
- Inspect radiator and oil cooler from both sides to verify fin/core.
- Check either side of radiator for vertical hollow support structures. Flush to verify clean.
- Check all wiring harnesses for internal cleanliness.
- Check under all hydraulic looming for cleanliness.
- The fuel cell generally sits below the radiator and engine – inspect all surface of the fuel cell.

Wheel Drums, Boots & Rims:

Pass

Fail

- Check internal of each cleat/boot on each wheel drum – generally these boots are only spot-welded or hollow with access points.
- Inside wheel rims may require plates to be removed to access brake drums - remove and inspect thoroughly.

Tyres:

Pass

Fail

- Check each tyre for cracks or splits.



Front End and Bucket/Blade:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Remove front housing cover plate to allow better access to hydraulics. • Remove cutting teeth from bucket. • Remove all non-affixed wear plates from the bucket. • Check front and backside of bucket for any crack, splits or evidence of repair. If any detected, the inside will need to be verified. • Inspect light mounts on front wheel arches – if applicable, these areas are generally hollow. • Bucket push arms are generally sealed units, however best to check for hollow areas or drainage points. 		
Other areas requiring inspection:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check all wheel arches for hollow support framework – may also have to loosen from chassis to clean where arch joins frame. • Inspect all surfaces of oil tank – generally near ladder to cabin. • Inspect under all non-slip checker-plate surfaces. • Inspect under all checker-plate (non-slip footings) flush to ensure clean. • Rear drawbar generally hollow – remove towing pin and flush hollow drawbar if applicable. 		

Checklist - Dump trucks

Inspect all areas, with particular attention to the following:

Driver's Cabin:

Pass

Fail

- Remove any rubber floor mats and clean floor surface.
- Remove and inspect all door rubbers, internal door panelling and all windowsills.
- Remove and inspect under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Remove rubber pedal covers and inspect.
- All air-conditioning vents must be internally inspected. Access will be required for inspection
- Inspect cleanliness of cabin roof and walls, both inside and out.
- Inspect ladder to cabin (may have hollow frame) and under each footstep.
- Inspect all light covers. Access may be required.
- Inspect for false floor under cabin and remove, if applicable.
- Inspect the vertical cabin housing drainage holes.

Front End & Radiator:

Pass

Fail

- Remove radiator grill (both outside and inside). Access will be required for inspection.
- Loosen radiator shroud to let loose debris fall through
- Inspect either side of radiator for vertical hollow support structures. Flush to verify clean.
- Clean inside all light covers. Access will be required to verify
- Inspect front drawbar for drainage holes and flush if present
- Inspect vertical channels either side of radiator for drainage holes and flush
- Inspect cleanliness of air filter (pressurised air may be required)
- Remove any non-affixed panels from front of the cabin – access to air-con

Engine Bay:

Pass

Fail

- Remove air-filter pre-cleaner cover and clean.
- Remove air-filter and clean with air.
- Clean inside fan-belt flywheels (harmonic balancer).
- Inspect all surfaces of engine block including between tappet covers.
- Remove belly plates if applicable and clean.
- Remove all non-affixed engine covers to allow access for inspection.
- Remove all engine cover rubbers for inspection.
- Inspect engine housing for open-ended or spot-welded hollow support framework - flush to verify cleanliness.
- Flush radiator and oil cooler from both sides to verify fin/core cleanliness.
- Inspect battery boxes for cleanliness. Loosen batteries and inspect under.
- Inspect either side of radiator for vertical hollow support structures. Flush to verify.
- Inspect all wiring harnesses for internal cleanliness.
- Inspect under all hydraulic looming for cleanliness.
- Ensure all engine mounts are clean.



<ul style="list-style-type: none"> • Ensure that all surfaces of sump and engine block are clean. • Internally clean all light covers. Access will be required for inspection. • Inspect under all inspector-plate (non-slip footings). • The front wishbone between the front wheels can be hollow and must be flushed via the openings inside the struts. 		
Rear Chassis:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Inspect all surfaces of the oil and fuel tanks. • Inspect all wiring harnesses for internal cleanliness. • Inspect under all hydraulic looming for cleanliness. • Inspect all surfaces of the chassis rails. • Inspect all internal ledges and hollow cavities inside track frames. • Carrier rollers above tracks – can have hollow vertical support structure, which requires Inspection. 		
Tyres and Rims:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Ensure that all cracks and splits in tyres are free of contamination. • Inside wheel rims may require non-affixed plates to be removed to allow access to the brake drums and inner rim • Dual tyres must be removed. 		
Dump Tray:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Inspect all surfaces of the tray for any cracks, splits or evidence of repair. If any are detected these will need to be investigated for internal contamination (if double skinned) • Inspect all rubber mounts on the underside of the tray 		

Checklist - Cars, 4WD, trucks and trailers

Ensure that the vehicle is unlocked and you have access to the boot and under the bonnet.

Interior:

Pass

Fail

- Inspect the foot wells.
- Inspect the pile of carpets and under carpet and floor mats.
- Inspect the tool boxes.

Boot:

Pass

Fail

- Inspect under mats or carpet.
- Inspect inside spare tyre area.
- Inspect other recesses in the boot/rear of the vehicle.
- Inspect recess of boot lid.

Note: Remove any contents if required to facilitate the inspection.

Engine bay:

Pass

Fail

- Inspect the radiator.
- Inspect the grill.
- Inspect the top of transmission gearbox.
- Inspect the recess under windscreen wipers.

Underside of the vehicle:

Pass

Fail

- Inspect the wheel arches, wheel trims, flares, step treads, bumpers.
- Inspect the mud flaps.
- Inspect the tyre rims (particularly the rear side).
- Inspect the top of axels and differentials.
- Inspect the top of muffler and surrounds.
- Inspect the spare tyres on 4WD's and station wagons are often suspended underneath.

Note: these are potentially a high risk area as contaminants collect inside the horizontally -positioned rim.

Cargo

Pass

Fail

- Inspect boxes and/or cartons present in the vehicle if you cannot ascertain their contents.

For Utilities and Trucks

Pass

Fail

- Inspect the floor of the tray.
- Inspect channels of tail gates.
- Inspect side guards.
- Inspect under chassis rails.
- Inspect the gaps in the floor welds or boards and bolt holes on tray.



Trailers:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none">• Inspect wheels.• Inspect guards and trays.• Inspect channels of draw bar.• Inspect under body.		

Checklist - Generic

Use this checklist for any machinery or vehicle not covered by other checklists:

Cabins:

Pass

Fail

- Inspect any rubber floor mats and floor surface.
- Inspect all door rubbers, internal door panelling and all windowsills.
- Remove and clean under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Inspect behind all cabin wall lining/panelling.
- Inspect all air-conditioning vents.
- Check cleanliness of cabin roof, both inside and out.
- Inspect ladder to cabin (may have hollow frame) and under each footstep.
- Internally inspect all light covers.
- Check for false floor under cabin and remove for inspection, if applicable.
- Check if the vertical cabin housing has drainage holes and verify their cleanliness.
- Inspect around roll over protection support structure.

Engine Bays:

Pass

Fail

- Inspect air-filter and pre-cleaner cover.
- Inspect inside fan-belt flywheels (harmonic balancer).
- Check all surfaces of engine block including between tappet covers.
- Remove belly plates if applicable and inspect.
- Remove all non-affixed engine covers to allow access for inspection.
- Remove all engine cover rubbers for inspection.
- Check engine housing for open-ended or spot-welded hollow support framework - flush to verify cleanliness.
- Chassis rails either side of engine are hollow and may be flushed via drainage holes on underside of the rail.
- Inspect radiator and oil cooler from both sides to verify fin/core cleanliness.
- Check battery boxes for cleanliness. Loosen batteries and inspect under.
- Check either side of radiator for vertical hollow support structures. Flush to verify internal cleanliness if present.
- Check all wiring harnesses for internal cleanliness.
- Check under all hydraulic looming for cleanliness.
- Ensure all engine mounts are clean.
- Ensure that all surfaces of sump and engine block are clean.
- Inspect internally clean all light covers.
- Check above the sway bar for cleanliness.
- Inspect under all checker-plate (non-slip footings) to ensure clean.

Tracks, Rollers & Track Frames:

Pass

Fail

- Stone / rock guards (if present) must be removed to allow inspection access to inside track frames.
- Remove all other non-affixed panels to allow inspection.
- Once rock guards have been removed, check where bolts attach to frame as it



<ul style="list-style-type: none"> • may be a hollow cavity, which requires flushing. • Remove bearing covers. • Rollers – each countersunk bolthole must be individually inspected. • Remove Track guides (below rollers), if present and inspect. • Roll tracks – one revolution required to check cleanliness of each track pad & countersunk bolts on rollers and idler wheels • Inspect the track spring adjuster inside track frame. • Inspect all internal ledges and hollow cavities inside track frames. • Carrier rollers above tracks – can have hollow vertical support structure, which requires inspection. 		
Ripper Cradle:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Ripper cradles are hollow – check for drainage hole or cracks. • Remove cutting teeth from ripper blades. • Loosen any wear plates from ripper blades. 		
Other areas:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check battery box – loosen batteries and inspect under. • Check all surfaces of oil tank to ensure clean. • Check all surfaces of fuel cell to ensure clean. • Fuel cells may need to be removed to allow access under for inspection. • Inspect under all checker-plate (non-slip footings) to ensure clean. • Inspect inside all light covers and cavities behind. 		
Front End and Radiators:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Remove radiator grill (both outside and inside). Access will be required for inspection. • Check either side of radiator for vertical hollow support structures. Flush to verify clean. • Clean inside all light covers. Access will be required to verify. • Check front drawbar for drainage holes and flush if present. • Check vertical channels either side of radiator for drainage holes and flush. • Check cleanliness of air filter. • Remove any non-affixed panels from front of the cabin. 		
Tyres and Rims:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Ensure that all cracks and splits in tyres are free of contamination. • Inside wheel rims may require non-affixed plates to be removed to allow access to the brake drums and inner rim. • Dual tyres must be removed. 		
Dump Truck Trays:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check all surfaces of the tray for any cracks, splits or evidence of repair. If any are detected these will need to be investigated for internal contamination (if double skinned). • Check all rubber mounts on the underside of the tray. 		



Telescopic Booms & Buckets:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check front and backside of bucket for any cracks, splits or evidence of repair. If any detected, the inside will need to be verified clean. • Remove all non-affixed wear plates. • Flush spot-welded wear plates on back of bucket. • All cutting teeth to be removed from bucket (Boots). • Boom arm (maybe hollow and necessitate removal of external non-affixed plates). • Remove cutting teeth from blade. • All telescopic booms must be fully extended for inspection. 		
Goosenecks and Circle:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Remove all non-affixed panels from along the gooseneck and check all hydraulic hoses. • All cutting teeth on the blade to be loosened and flushed behind • Remove all non-affixed wear plates from the blade. • Check front and backside of blade for any cracks, splits or evidence of repair. If any detected, the inside will need to be verified clean. • Check light mounts at the front of the gooseneck – if applicable; these areas are generally hollow. • Inspect all pivot points. • The gooseneck is hollow and may have drainage holes on the underside either at the front or rear – if present flush to verify internal cleanliness. • Inspect spot-welded wear plates on back of bucket. 		

LIST OF QUEENSLAND'S DECLARED PEST PLANTS

The current list of Queensland's declared pest plants is maintained on the department's website www.daff.qld.gov.au.

OTHER RESOURCES

AQIS Machinery Cleaning Guides and Checklists

The AQIS machinery cleaning guides and checklists have been developed to assist importers and offshore cleaners to meet Australia's import permit conditions ("clean as new") as found in ICON, the import conditions database. These guidelines are more onerous than required by Queensland legislation.

The AQIS machinery guides and checklists provide a pictorial and written explanation to the many common areas in machinery that harbour risk material.

<http://www.daffa.gov.au/aqis/import/vehicles-machinery/regulations/guides-checklists>

Machinery Type

18. Articulated Dump Trucks Cleaning Guide & Checklist
19. Caterpillar Dozers Cleaning Guide & Checklist
20. Compactors Cleaning Guide & Checklist
21. Dump Truck Cleaning Guide & Checklist
22. Excavators Cleaning Guide & Checklist
23. Hitachi DX40 Dozers Cleaning Guide & Checklist
24. Medium Sized Dozers Cleaning Guide & Checklist
25. Mini Excavators Cleaning Guide & Checklist
26. Mini Tractors Cleaning Guide & Checklist
27. Motor Graders Cleaning Guide & Checklist
28. Scrapers Cleaning Guide & Checklist
29. Skid Steer Loaders Cleaning Guide & Checklist
30. Wheel Loaders Cleaning Guide & Checklist
31. Generic Checklist

US Armed Forces Pest Management Board Technical Guide No 31 March 2008

This technical guide provides information on cleaning techniques and inspection procedures currently used by the US Department of Defence personnel responsible for washing and reviewing equipment, supplies and vehicles.

<http://www.afpmb.org/pubs/tims/tg31/tg31.pdf>

Tasmanian Washdown Guidelines for Weed and Disease Control

These guidelines establish the standard for washing down machinery, vehicles and other equipment to minimise the risk of spreading weed seeds, some insects and plant pathogens in Tasmania.

<http://www.dpiw.tas.gov.au/inter.nsf/Attachments/LJEM-5ZM43C?open>