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SCRAPERS



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The following cleaning/inspection guide has been segmented to facilitate the process. The segmentation is as follows:

- [1. The Cabin](#)
- [2. Front End and Drawbar](#)
- [3. Engine and surrounding Chassis](#)
- [4. The Gooseneck](#)
- [5. The Elevator](#)
- [6. The Scraper Bowl + Wear Plates and Cutting Teeth](#)
- [7. Tyres](#)
- [8. The Rear End](#)
- [9. General](#)

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1. The Cabin

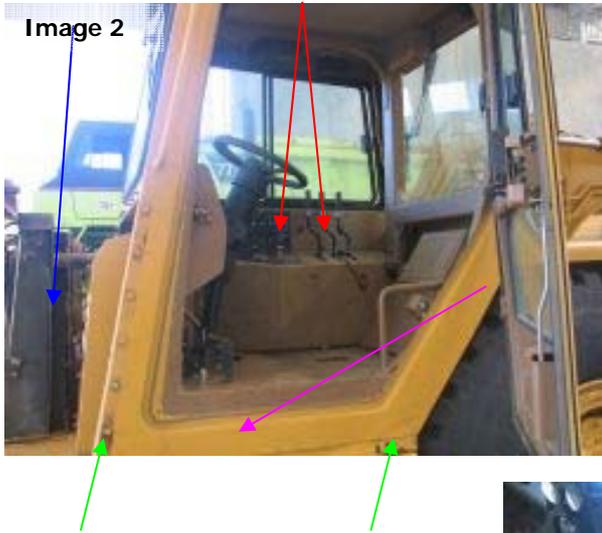


Image 2:

The inside of the Scraper cabin. Note that seat has been removed as well as the rubber floor matting, allowing for cleaning and inspection. Inspection access will be required inside the joystick control panels (red arrows). The non-affixed panel in front of the cabin (blue arrow) has also been removed, allowing access to the air-conditioning unit. Check for drainage holes (green arrows) under the cabin framework. Any non-affixed floorpans are to be removed for cleaning and inspection.

Image 3:

Close up shot of the joystick control panel (red arrows). Access will be required to verify internal cleanliness. The matting still seen on the side (blue arrow) of the joystick control panel will also have to be removed.



Image 4:

A close up of the air-conditioning vents, which must be internally cleaned and accessible for inspection.

Image 5:

The door rubbers (red arrows) are to be removed for cleaning and inspection, as well as internal door linings (blue arrow).





Image 6:
Check the ladder to the cabin. On this model the ladder is made from wire bundles, which must be free of all contamination.



Image 7:
The Front End, highlighting the non-affixed panels removed from in front of the cabin, exposing the air-conditioning unit for inspection.

Image 8:
Once the seat has been removed, the internal of the rubber shroud (red arrow) can be easily cleaned and inspected.



Image 9:
Air-filters in front of the cabin. This illustration highlights the amount of contamination that can be found in this area.

2. Front End and Drawbar

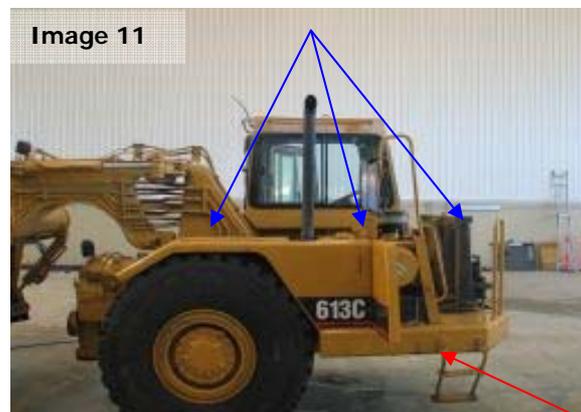


Image 10:

Illustrates the amount of dismantling (numerous non-affixed panels) required to make the engine and front end accessible for cleaning and inspection. The front drawbar (red arrows) is usually hollow, which will be highlighted later.

Image 11:

All non-affixed engine covers have been removed, allowing access for cleaning and inspection. The red arrow is highlighting the hollow drawbar.



3. Engine and surrounding Chassis



Image 12:

The front of the block and the harmonic balancers (flywheels). These can be concave and harbour contamination inside (red arrow). The internal radiator grill (green arrow) must be removed, allowing cleaning and inspection access inside the radiator shroud (blue arrow). Check all external surfaces of the block, including oil filters, starter motors and between tappet covers.

Image 13:

The air-filter (red arrow) is to be removed from the housing and verified clean (usually performed with pressurised air). The batteries (blue arrows) are to be loosened from the tie-down points and inspected underneath.

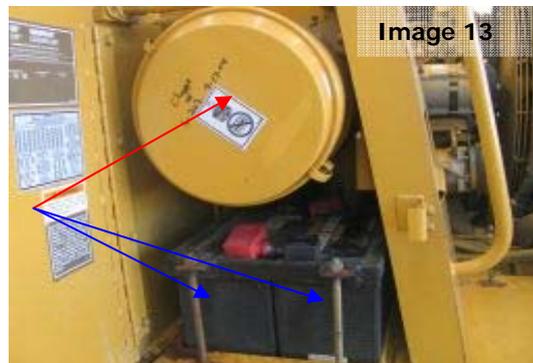


Image 14:

The air-filter pre-cleaner or dust collector (red arrow). The cover must be removed to allow cleaning and inspection.

Image 15:

All fins on the radiator (red arrow) and oil cooler (blue arrow) are to be flushed in order to verify cleanliness. Note the small gap between the oil cooler and radiator. On some models, the oil cooler can be unbolted (green arrow), allowing better access for cleaning the fins and inspection.

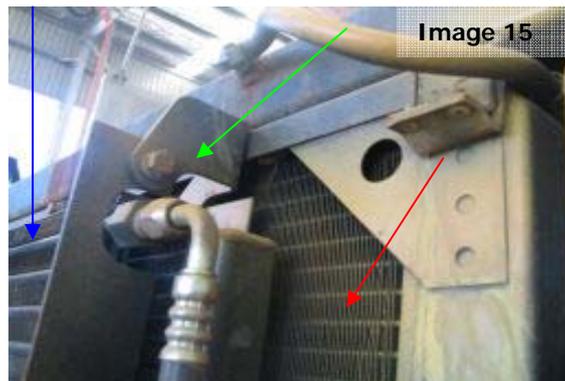


Image 16:

The front drawbar as seen from the underside. These support channels can be hollow, as seen above and can be flushed via the drainage holes (red arrows).

Image 17:

There are other hollow support structures (red arrows) under the front end that will require flushing to verify cleanliness. The inside of the horn (blue arrows), will also require verification of cleanliness.



Image 18:

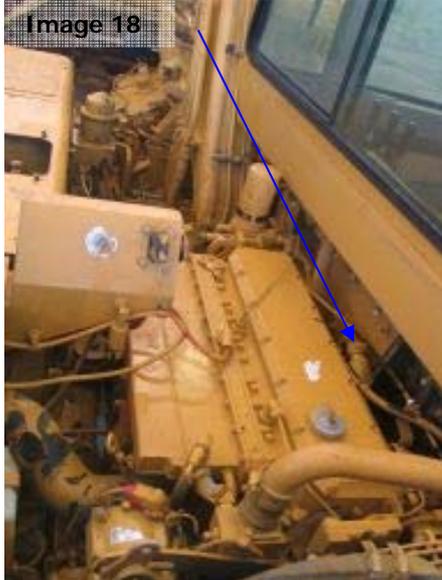


Image 18:

The topside of the block is highly visible for cleaning and inspection once all non-affixed engine covers and panels have been removed. The block and transmission are home to a myriad of hydraulic hoses and cables, which make cleaning and inspection difficult. The area between the cabin and the block (blue arrow) is very confined and the use of inspection mirrors is recommended. Flushing to verify areas that cannot be seen or felt will be required.

Image 19:

The rear of the block, below the Gooseneck. This area is also characterised by numerous hydraulic and electrical hoses and cables, all requiring thorough cleaning and inspection. All checker plate (green arrow) is to be flushed to verify cleanliness. Flushing to verify areas that cannot be seen or felt will be required. The aqua arrow highlights the access point to the hollow chassis rail, that is highlighted next.

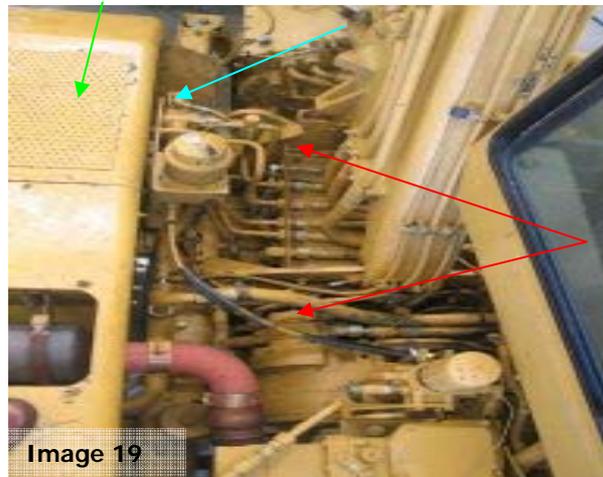


Image 20:

The two chassis rails either side of the engine block are hollow. On most models there will be access points or drainage holes. The one illustrated in this picture is located on the topside of the chassis rail, towards the rear.

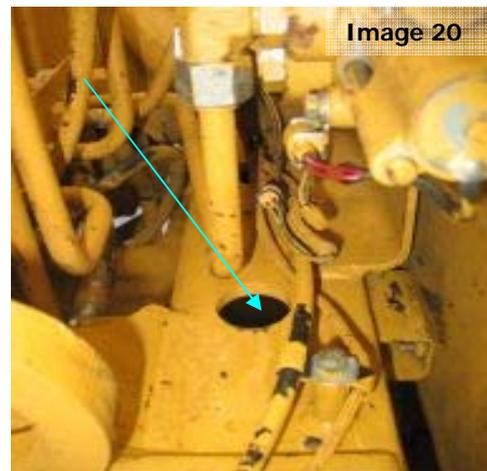




Image 21:
The air tanks that can be located under the front end. The topside of these can be difficult to access and may require dismantling for cleaning and inspection.

Image 22:
The underside of the front end and hollow chassis rail (red arrow). The belly plates have been removed, allowing access for flushing both channels via the vacant belly plate bolt-holes (green arrows). All hydraulic hoses require thorough cleaning and inspection (especially the non-visible surfaces).

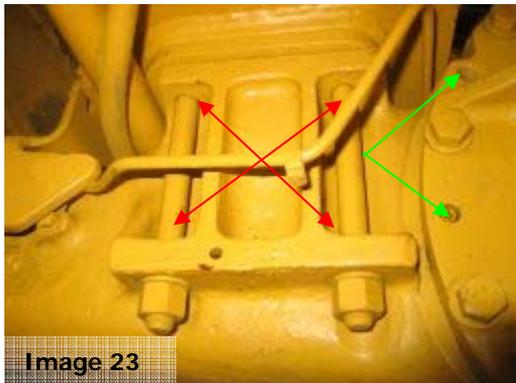
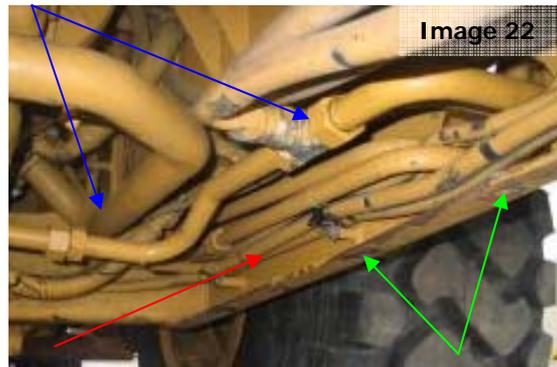


Image 23:
Each axle on either side of the differential has supports (red arrows) for the housing above. Each of these areas requires thorough cleaning and inspection. Check all countersunk recesses (green arrows).

Image 24:
All universal joints must be free of contaminated grease.

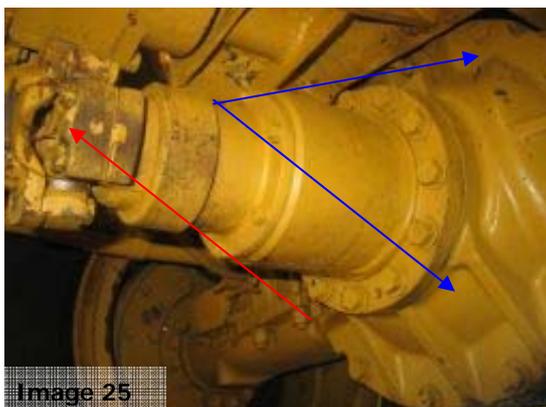
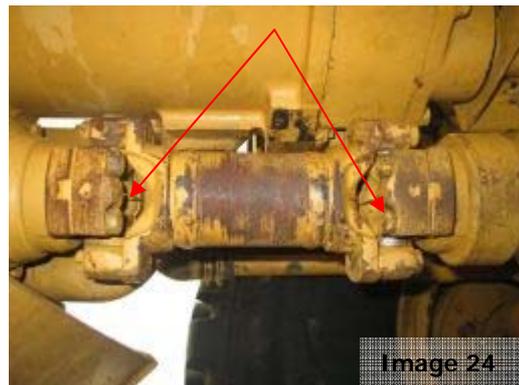


Image 25:
All universal joints must be free of contaminated grease (red arrow). The bell housing (blue arrow) has many nooks, ledges, countersunk holes and hydraulic hoses, all of which require careful cleaning and inspection.

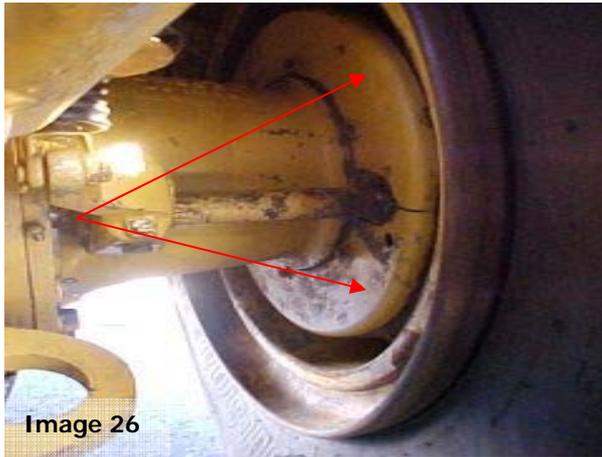


Image 26:
All non-affixed internal wheel rims must be removed for cleaning and inspection.

Image 27:
Thoroughly inspect all internal wheel rim surfaces. A mirror is recommended to inspect the backside of the brake drum (blue arrow).

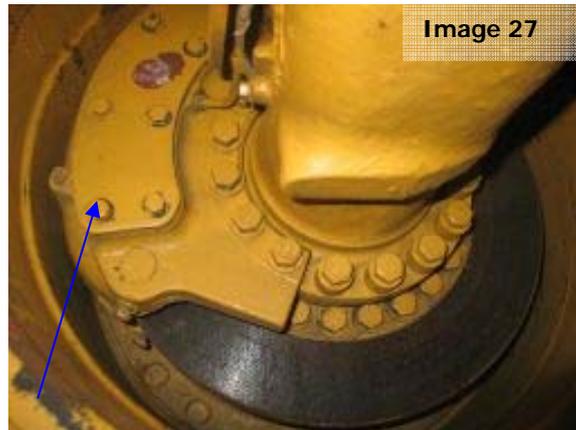


Image 28:
A non-affixed panel removed from under the cabin floor. This illustration highlights the amount of contamination that can be found in these areas.

Image 29:
A small door below the cabin, which also provides access to the contamination seen in the last illustration.

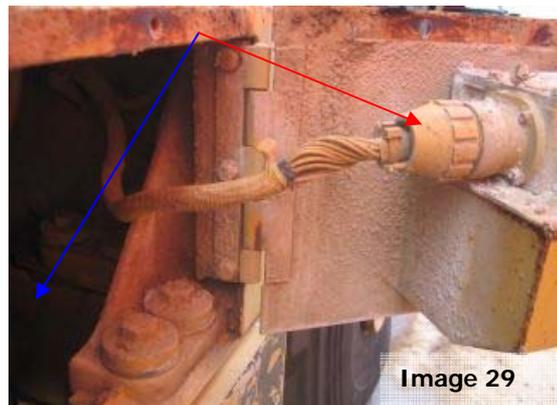


Image 30:

The side of the sump, which can only be accessed once all belly plates have been removed. Note the amount of contamination (blue arrow) that can be seen in the surrounding area. This whole area must be thoroughly cleaned and inspected.

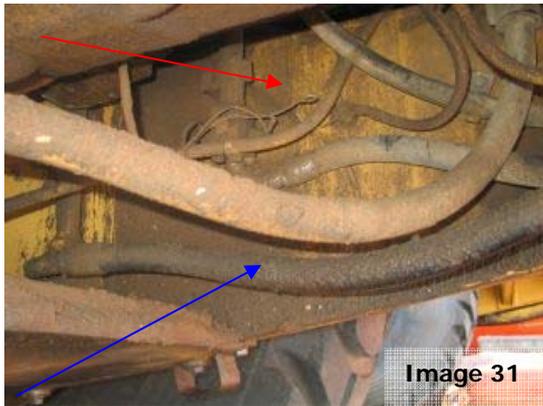
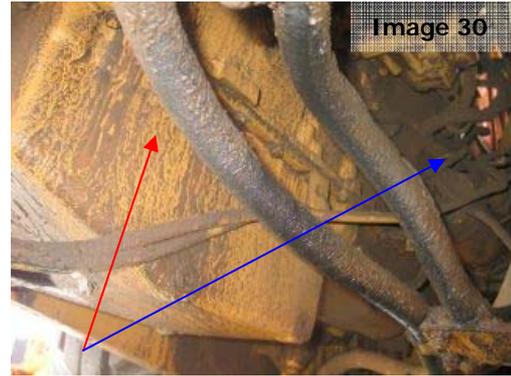


Image 31:

The inside chassis rails, visible once the belly plates have been removed. All hydraulic hoses (blue arrow) must be thoroughly cleaned and inspected.

Image 32:

Another view of how contaminated the underside of the engine block and sump can be. All belly plates and non-affixed panels must be removed for cleaning and inspection.

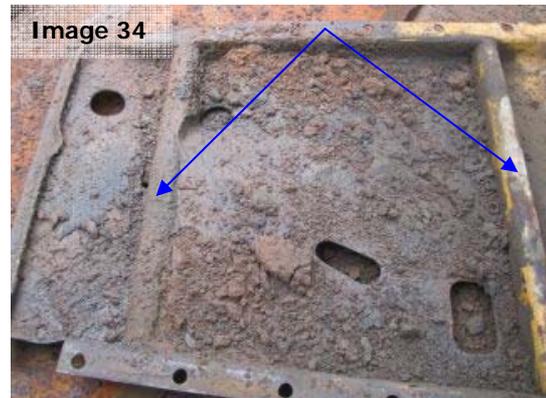


Image 33:

Contamination seen around hydraulic hoses (blue arrows). All surfaces of these hoses must be thoroughly cleaned, including the removal of contaminated grease.

Image 34:

Belly plates must be removed and thoroughly cleaned. Check for openings along the framework (blue arrows). If open, these will require flushing to verify cleanliness.



4. The Gooseneck

Image 35:

The Gooseneck found on all Scrapers. Check all surfaces of the Gooseneck for any openings or drainage holes. On some models the opening may be topside (red arrow). All hydraulic hoses and lines must be thoroughly cleaned and inspected. Remove all contaminated grease from pivot points and rams.

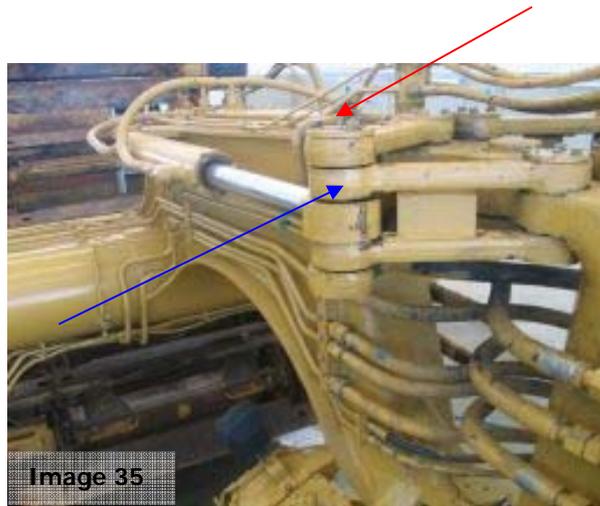


Image 36



Image 36:

Check all surfaces of the Gooseneck for any openings or drainage holes. On some models the opening may be at the bottom (red arrow).

5. The Elevator

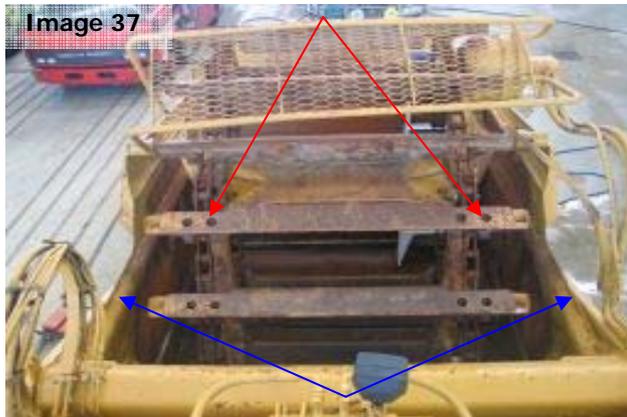


Image 37:

The Elevator as seen from the Gooseneck. This area consists of a series of blades (red arrows) on a chain, used to push the load to the rear of the bowl. The blue arrows highlight the side of the bowl, which will be highlighted later.

Image 38:

The Elevator blades (red arrow) are hollow and need to be flushed via the entrance holes (blue arrows) to verify cleanliness.

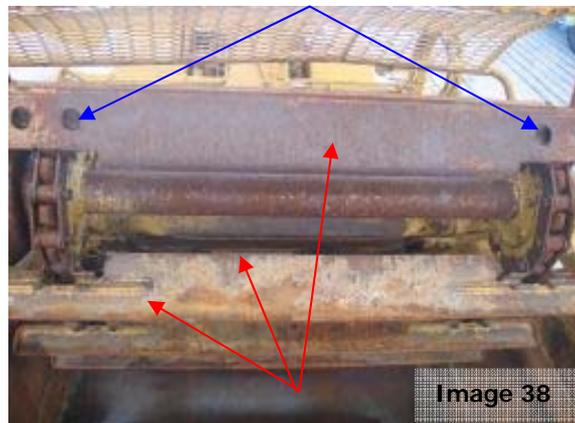


Image 39

Image 38

Image 39:

Another view of the Elevator blades, highlighting the flushing entrance holes.

Image 40:

An illustration of the Cylinder, located just behind the Gooseneck. This area is hollow and can harbour significant amounts of contamination. Generally a sealed unit as illustrated, however check for cracks, splits or evidence of repair. On this model the ends are completely welded, sealing the unit, but on other models this plate may only be spot-welded. If only spot-welded, flush inside to verify cleanliness.



Image 40

6. The Scraper Bowl + Wear Plates and Cutting Teeth

Image 41:

An illustration of the side of a typical Scraper Bowl. The sides, rear and underside of most Scraper Bowls are hollow structures and can potentially harbour hundreds of litres of contamination. The red arrows highlight that there may be separate compartments and the blue arrows show where the wear plates have been removed. Tapping the side of each compartment can assist on determining if these areas are full of contamination (dense sound compared to hollow).



Image 42:

The front of the Scraper Bowl, also showing the Elevator and Cylinder.

Image 43:

All cutting teeth along the front of the Bowl are to be loosened and flushed behind to verify cleanliness.

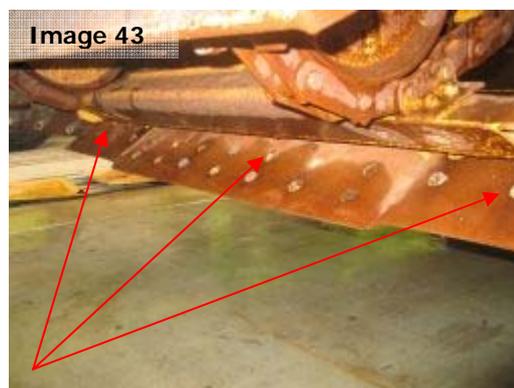


Image 44:

The underside of the cutting teeth. Ensure around each bolt head is clean as well as looking for any cracks, splits or evidence of repair on the underside. The Bowl will have to be supported by chocks at the time of inspection.

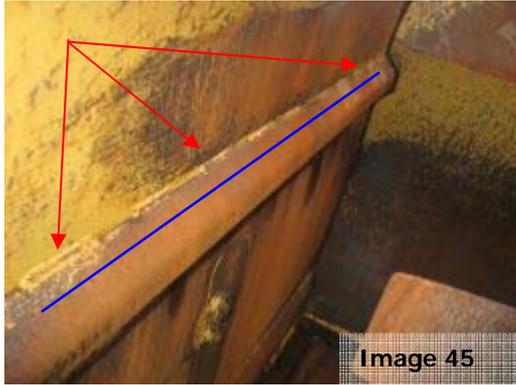


Image 45:

The internal wall of the Scraper bowl may have protective plates, covering the hydraulic hoses as they run from front to back. This area is hollow and may only be spot welded (as highlighted by the red arrows), open-ended (as seen later) and will require flushing to verify cleanliness. The blue line indicates the hollow channel.

Image 46:

Another example of a protective plate, covering the hydraulic hoses.

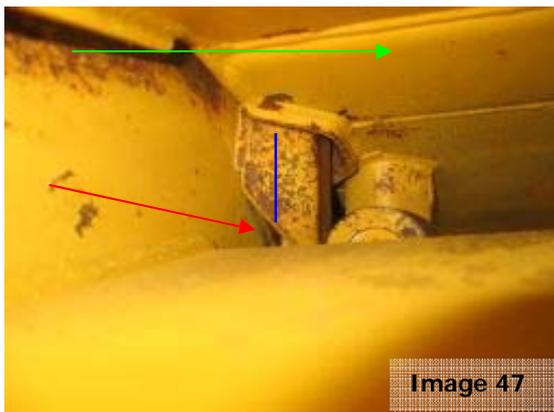
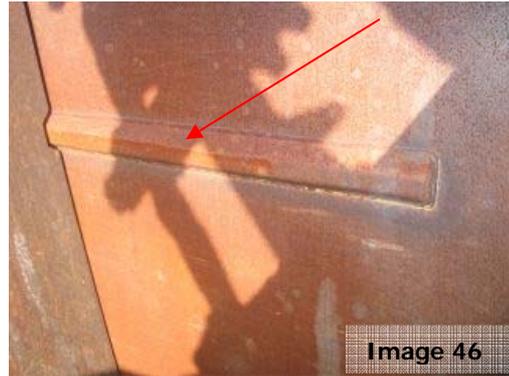


Image 46:

The ends of the protective covers, which have highlighted in the last few illustrations. In this picture the open-end (red arrow) can be seen behind the rear of the Bowl (green arrow) and this channel will require flushing to verify cleanliness.

Image 48:

This illustration highlights the exit of the hydraulic hoses from the inside of the Bowl, just behind the rear. This is a natural opening on some models, allowing hundreds of litres of contamination to enter the sides. The knife is supported by the amount of contamination inside (The red arrow highlights the area full with contamination).



Image 49:

On some models these natural openings can be found on each side of the bowl, behind the rear face. This side is also full with contaminants.



Image 50

Image 50:
The inside face of a typical Scraper Bowl. Check all surfaces carefully for any cracks, splits or evidence of repair. If detected, these areas will need to be investigated to be verified clean.

Image 51:
This illustrates the hydraulic lines entering the sides of the Bowl at the front end. Several bolts have been removed, allowing access for inspection. This area has been illustrated to show that these sides can be full of contamination.

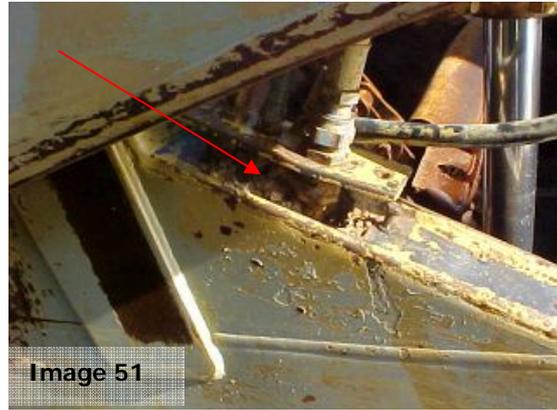


Image 51



Image 52

Image 52:
A close view of where the hydraulics enter the side of the Bowl. Once again, several bolts (green arrows) have been removed to allow for cleaning and inspection. This area has been illustrated to show that these sides can be full of contamination.

Image 53:
Another illustration to highlight an area where repairs were detected. The area was examined and the inside of the bowl was contaminated.



Image 53

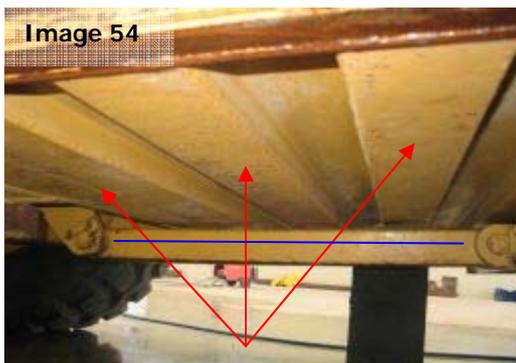


Image 54

Image 54:
The underside of the Scraper Bowl, showing individual gussets that can each harbour contamination. Check all surfaces for cracks, splits or evidence of repair. Again, tapping each compartment can assist on determining if these areas are full of contamination (dense sound compared to hollow). The beam highlighted by the blue line may also be hollow and require flushing.

7. Tyres

Image 55:

All cracks and splits in tyres must be verified to ensure that all are free of contamination.



8. The Rear End



Image 56:

The rear end of the Scraper with all non-affixed panels removed, allowing access for cleaning and inspection. The red arrows highlight the rails under the rear, which will be seen later.

Image 57:

At the back of the bowl and under the rear, check the small Bowl pulley wheels (green arrow) and flush small recesses (red arrow).

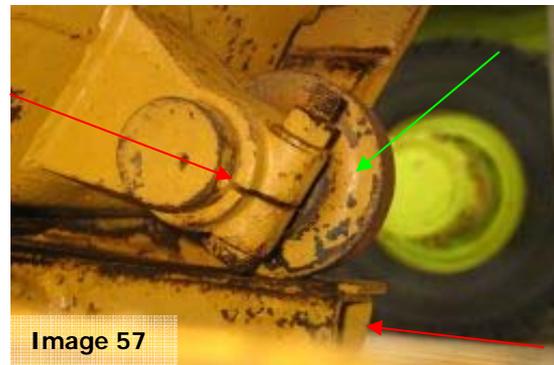


Image 58:

Hollow cavities (red arrows) such as these are common under the rear of Scrapers. All must be accessible at inspection.

Image 59:

All internal non-affixed rim plates (red arrows) must be removed, allowing for cleaning and inspection.

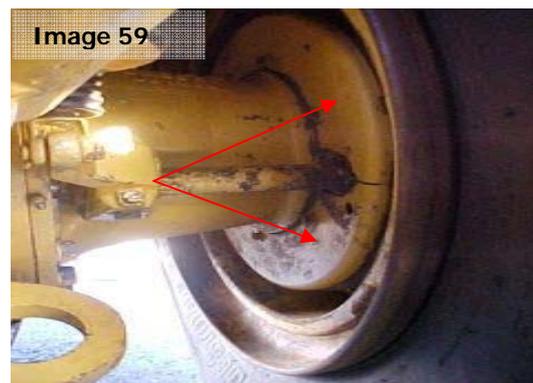


Image 60:

The rails (red arrows) as seen under the rear of the Scraper, behind the Bowl. These areas can hold significant amounts of contamination.

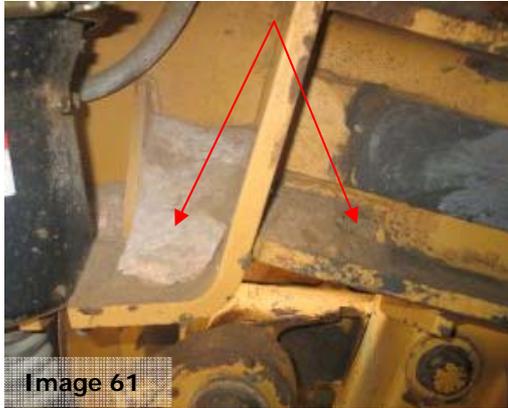
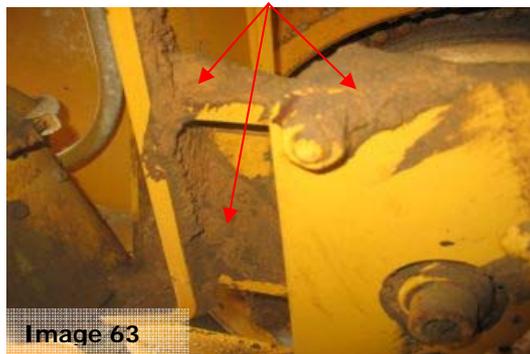
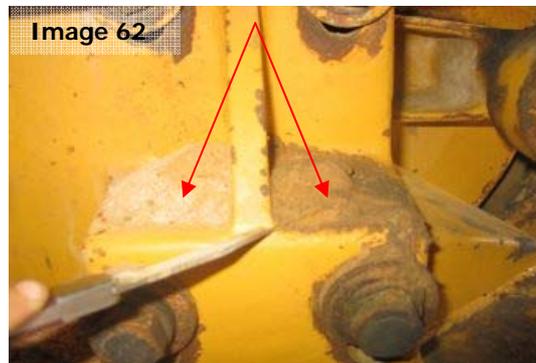


Image 61:

An example of the different nooks and ledges that can be found under the rear of the Scraper, harbouring contamination.

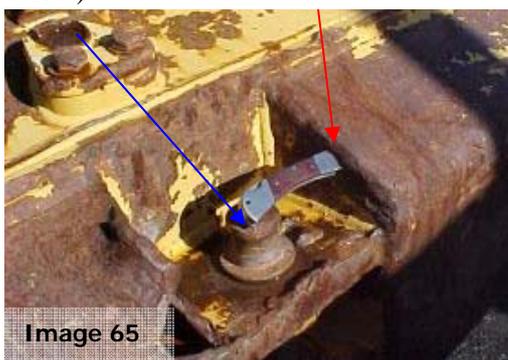
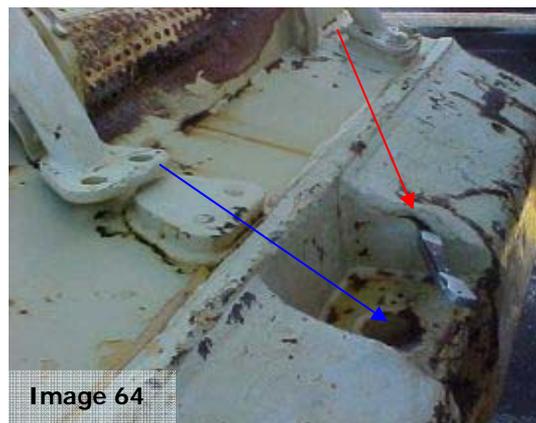
Images 62 & 63:

More examples of the different nooks and ledges that can be found under the rear of the Scraper, harbouring contamination.



Images 64 & 65:

Examples of the rear drawbars on Scrapers. In each, a crack in the drawbar (red arrows) can be seen, which will require further investigation in order to verify the internal cleanliness. Remove the pins (blue arrows), as sometimes the access point to these areas maybe via this entrance (or drainage holes below).



9. General

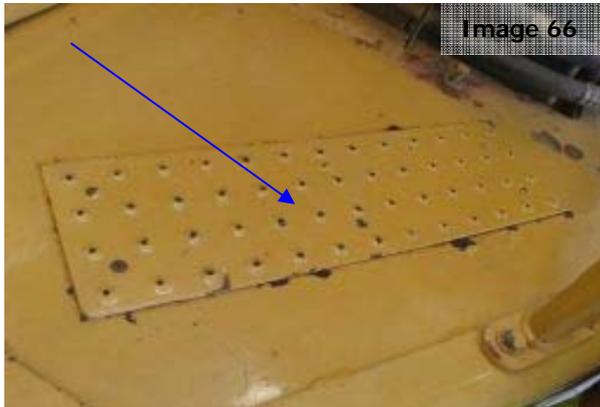


Image 66:
All non-slip checker plate must be flushed to verify cleanliness underneath.

Image 67:
Check all engine covers for hollow support framework and flush to verify cleanliness if required.



Image 68:
Check all wiring harnesses for internal cleanliness.

Image 69:
Check all looming around hydraulic hoses for internal cleanliness.

