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FILTERMAG[®]

INDUSTRIAL PRODUCTS DIVISION

Haul Truck Reliability Enhancement Guide

Reduce Wear • Mitigate Damage • Increase Reliability • Extend Equipment Life



FILTERMAG[®]
Outside—



**RESULTS
Inside**

More than 50 million normal wear-causing steel particles extracted from engine oil by FilterMag.

Microscopic Equipment Killers



Magnified view of damaging steel particles small enough to pass through any standard filter. All captured by FilterMag.

You can control wear *and* enhance reliability with FilterMag.

Twenty haul trucks with 16-cylinder diesel engines were engaged in a long term FilterMag Engine Oil Case Study.

Results?

75% reduction in engine oil contamination.

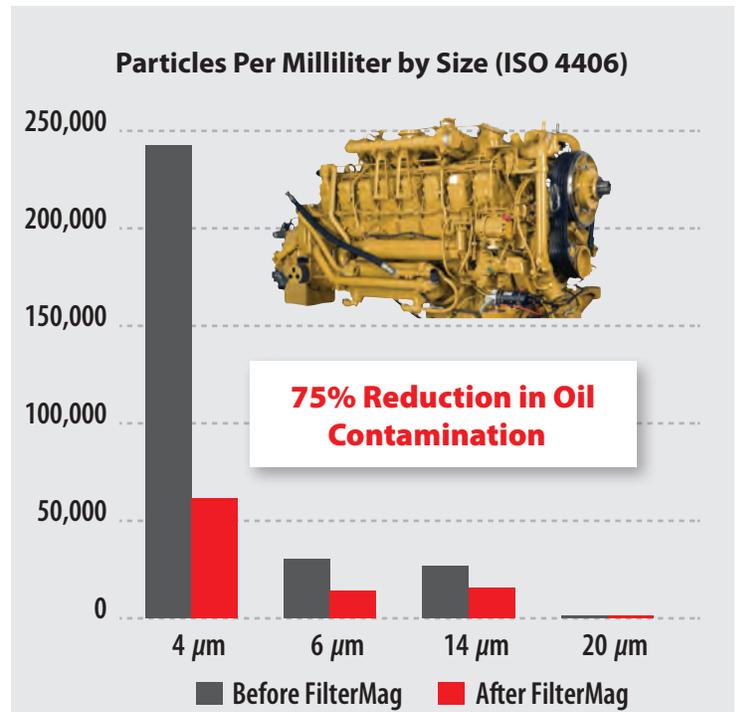
Each haul truck had a 400 hour oil change interval. Oil samples were taken at the end of each change cycle. Multiple samples were taken from each truck over several cycles to establish baseline particles counts. Two FilterMag CT4.9 were then installed on each of the engine's four oil filters. Multiple cycle samples were continued on each truck after FilterMag installation.

Results Summary

Total Before Samples: 642 (average of 32 per truck)

Total After Samples: 331 (average of 16 per truck)

Results: 75% average reduction in engine oil contamination $\geq 4\mu\text{m}$.

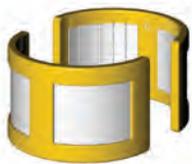


793 B/D FilterMag Applications (Typical)



Fuel Filters

- Install six CT4.9s in three stacked rings on each spin-on filter.
- 12 CT4.9s required.



Engine Oil Filters

- Install two FilterMag CT4.9s in a ring near the threaded end of each of four filters.
- Eight CT4.9s required.



Why put six FilterMag CTs on Fuel Filters?

Fuel filtration is a one-pass opportunity to grab particles. Particle capture is optimized with six FilterMags covering the filter's exterior.

If there is a primary and secondary filter arrangement, install multiple FilterMags on each filter as space permits.



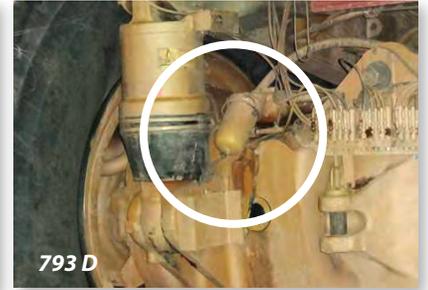
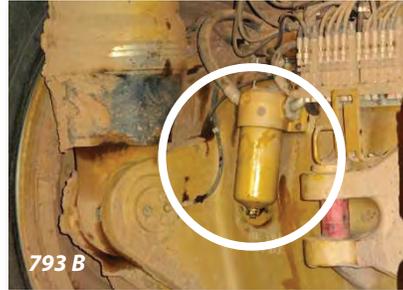
Final Drive

- Install one FilterMag FD3963 in each final drive.
- Two FD3963s required.



Differential and Axle

- Install four XT5s in two stacked rings near the threaded end of each canister.
- Four XT5s required.



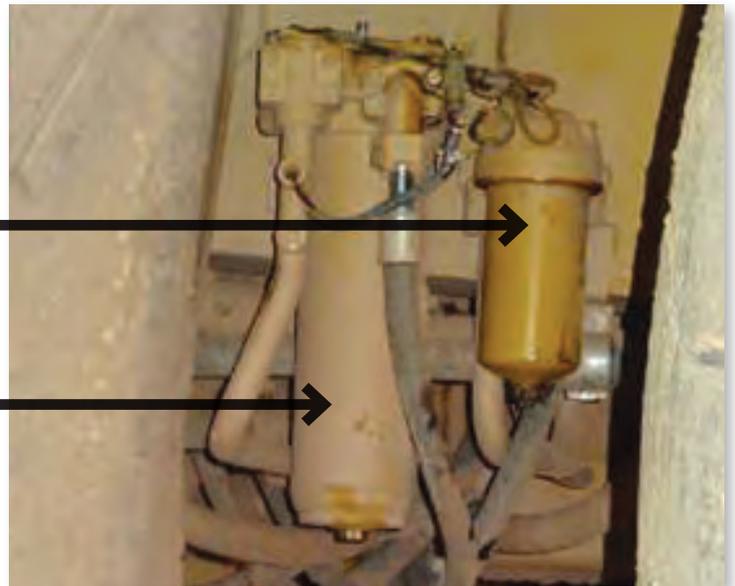
Transmission Charging System (D)

- Install two XT4s stacked near the top of the 4-inch diameter filter canister.
- Two XT4s required.



Transmission Filtering System (D)

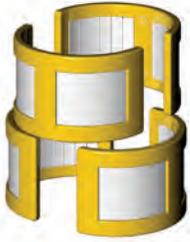
- Install two XT6s stacked near the top of the 6-inch diameter filter canister.
- Two XT6s required.



Torque Converter Filtering System (B)

- Install four XT6s stacked near the top of the 6-inch diameter filter canister.
- Four XT6s required.





Power Steering

- Place four CT3.8s in two stacked rings near the top of each filter canister.
- Eight CT3.8s required.



Power Steering 793B

- Place two CT3.8s in a concentric ring near the top of the filter canister.
- Two CT3.8s required.



Candidate 793 B/D Applications Summary

| Applications | Quantity | Type/Dia. inches (mm) | Applicable FilterMag |
|---------------------------|----------|------------------------|----------------------|
| Final Drive Plugs | 2 | N/A | FD3962 (2 required) |
| Differential & Axle (B) | 1 | Cartridge, 5 (127) | XT5 (4 required) |
| Differential & Axle (D) | 1 | Cartridge, 5-3/4 (146) | XT5 (4 required) |
| Engine Oil | 4 | Spin-on, 5-1/8 (130) | CT4.9 (8 required) |
| Diesel Fuel | 2 | Spin-on, 5-1/8 (130) | CT4.9 (12 required) |
| Transmission Charging (D) | 1 | Cartridge, 4 (102) | XT4 (2 required) |
| Transmission Filter (D) | 1 | Cartridge, 6 (152) | XT6 (2 required) |
| Torque Converter (B) | 1 | Cartridge, 6 (152) | XT6 4 required) |
| Power Steering (B) | 1 | Spin-on, 3-5/8 (97) | CT3.8 (2 required) |
| Power Steering (D) | 2 | Spin-on, 3-7/8 (97) | CT3.8 (8 required) |



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