Mechanic’s report of Town of Canaan’s Equipment

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Highway Truck Evaluations 8/15/23

Evaluation, Very Poor, Poor, Fair, Good, Excellent

Revaluation as of 10/25/23

Truck #1 2022 GMC 2500 Pickup 23,000 miles Truck is less than one year old with no seen problems ***10/25/23 Miles 25,867***

Current Condition: Good to Excellent

Truck #2 2016 GMC 3500 crew cab pickup 79,000 miles ***Will need rear brakes***

Current Condition Fair to Good ***2023 150.05 10/25/23 Miles 79,080***

Truck #3 2015 Dodge Ram 5500 (Green) 69,620 miles

Current Condition: Poor to Fair ***10/25/23 Poor Miles 69,620***

Current issues: Smoke for Dash area unknown cause or price at this time, missing wheel stud driver side ($250), rust/rot on rocker panels ($1500-$2000) Brake line repair, remove and install heater core. Transmission linkage. ($500)

Work in the last year: on this truck Frontend, upper and lower ball joints, brake pads and rotors, brake calipers, right and left drive axels Total: $5,000

2023 $725.29

Truck #4 2022 Dodge Ram 5500 (white) 6,000 miles Truck is less than one year old with no seen problems ***10/25/23 Miles 6,858***

Current Condition: Good to Excellent

2023 $57.21 Light

Truck #5 2015 international 31,000 miles ***10/25/2023 Miles 31,010 Hours 3,186***

Current Needs: 1 air tank ($800) ***Fixed August 2023***

This truck replaced previous truck 306 international six wheeler summer of 2022

Current Condition: Fair to Good

Work in last year: patch body and paint, free up body to properly lift and lower, mount rear tires (tires included in purchase) we had to change over, replaced rear springs both sides, front tires (our cost) Removed pre wet system, replaced 1 air tank $7,900 ***2023 $3,119.51***

Truck #6 2019 Western Star six wheel dump truck 27,500 miles ***10/25/23 Miles 27,937 Hours 2,506***

Current Condition: Good

Current needs: Rear Shocks ($350), Front Tires ($950)

Work in the last year: Spring shackles ($600) Rear Tires and Wheels ($3700) Total $4,300 Alternator, ($400) Strobe and Rear Lights ($211.30)

2023 $4,911.30

Truck #7 2018 Western Star six wheel dump truck 38,000 miles ***10/25/23 38,379 Miles 3,605 Hours***

Current Condition: Fair to Good ***10/25/23 Good***

Current Needs Rear Shocks ($350), Front Tires ($1200) rear end will not engage power divider unknown repair cost.

Work in the last year: Front springs ($2200) Rear Tires and Wheels ($3700)

Rear air brake chamber ($150) Air Dryer ($700) Total : $6,750

2023 $7,238.12

Truck #8 2016 Western Star six wheel dump truck 57,500 miles ***10/25/2023 58,631 Miles 5,940 Hours***

Current Condition: Fair to Good ***Good as of 10/25/23***

Current Needs: ABS module ($450) Front Tires ($1200)

Work in the last year: Rear Tires and Wheels ($3700), Rear shocks ($350) Temperature sensor ($400) Air Dryer ($700) Rear brake shoes & Drums ($1200) Front spring pins & Bushings ($500) Wire DEF pump ($600) Wheel Studs ($150) Total : $7,100 ***2023 $5,098.37***

Truck #9 2013 Freightliner 10 wheel dump truck 74,574 miles ***10/25/2023 Miles 75,783 Hours 5,983***

Current Condition: Poor to Fair ***Poor as of 10/25/23***

Current Needs: Dump body piston hydraulic lines ($350) spring brake valve ($450) Dump Body is in poor shape, Transmission and coolant lines are in very tender condition ($1250- $1750) (Minimum 4 Driver tires replaced ($1600) ***Replaced in September***) Radiator

Work in the last year: Bed/Spreader chain assembly ($7000), Front Tires ($1200), Air Dryer ($700), Transmission repair ($3000) Power steering Pump ($550), Slack adjuster, Brake shoes, Drums, Backing plates, S Cam bracket, S cam, Wheel/Hub seals, Hardware kit, ($4500) Oil Pan ($1000) Air chamber ($150) DEF Pump ($500) Temp Sensors ($500) Rear brake chambers & Shoes ($1000) Total: 20,100 ***2023 $15,330.33***

Truck #10 2021 Western Star 10 Wheel dump truck 17,000 miles ***10/25/2023 Miles 18,494 Hours 1,607***

Current Condition: Good

This truck is 2 years old and has a recent service done and has no visible issues.

Highway Light / Heavy Equipment 8/15/23

Revaluation on 10/25/2023

Evaluation, Very Poor, Poor, Fair, Good, Excellent

2004) Volvo 720B Road Grader: 11,230 Hours

Current Condition: Very Poor to Poor - High Hours

Current Needs: Front tires, Motor refresh, Transmission Service, Hydraulic pump leaks fixed, Turntable Serviced. Cooling system service, A/C belt/pump

Work in the last year: Brake booster/master cylinder, Left Front brake, grader/blade bushings, Water pump, Operators seat Total : 16,229.02 (2022 & 2023) ***2023 $13,210.56***

John Deere 410K Backhoe: 7460 Hours ***Poor as of 10/25/23 Hours 7,518***

Current Condition: **Very Poor** as of 8/15/23 Backhoe is in a non running / productive status and is at the dealer to perform an evaluation of machine and get repair quotes. High hours on machine ***Backhoe was sent out with wiring issues going to transmission control module and was repaired. Needed 1 steering hydraulic hose line repaired***

Work in the last year: New front tires ($2500) (2022) ***2023 $3,842.47***

Current Needs: Rear hydraulic cylinders rebuilt along with above items NO cost quotes available at this time

2012) Volvo L70G Loader: 7,638 Hours ***10/25/23 7,771 Hours***

Current Condition: Poor to Fair - high Hours as of 10/25/23 Poor

Current Needs: Coolant reservoir, rear tires

Work in the last year: ***Lift pistons rebuilt, Had a computer communication issue that needed to be dealer diagnosed. 2023 $2,532.64***

Volvo 160 Excavator: 7,800 Hours

Current Condition: Fair

Current Needs: Drain and reseal left hand drive Hydraulic hoses will need to be replaced soon as they are starting to show excessive deterioration and failure due to age.

Work in the last year: Service 3 hydraulic Hoses ($200)

2023 Hitachi 60USB Mini Excavator: 213 hours

Current Condition: Excellent

Current Needs: None NEW Machine this year

Work in the last year: None

1974 International TD-7 Dozer:2500+

Current Condition: Poor

Current Needs: Radiator, Track adjusters, Left steering clutch

Work in the last year: Manually adjust track and weld temporary adjustment. Service, patch and reinforce blade, right side roller, Fan Belt

5640 Ford Tractor w/boom mower: Hours Unknown

Current Condition: Very Poor to Poor Currently not running ***10/25/23 Good back in running condition***

In the process of evaluating why the reassembled engine from two years ago will not make a rotation as this engine has not ran since it was installed in tractor.

Evaluated tractor did some diagnostic work which resulted In splitting the tractor and pulling the motor. The motor is part of the framework on this tractor it was found that when the motor was reassembled the timing marks on the counter balance was not aligned with the balance shaft not allowing #2 cylinder to operate properly. The valve train also needed to be readjusted and properly torque. The boom mower head received a new bearing and ground guide. At this point the tractor with attachments is in Good running condition. Current hours on machine are unknown the rebuilt motor has 1-2 hours run time.

New Holland TS90 w/Side mower and rear flail mower: Hours unknown

Current Condition: Fair

This is an older piece of equipment that was bought when the 5640 was going out of service

Work in the last year: Throttle cable, Clutch return spring less than $50 ***Repaired $328.51 2023***

Current Needs: Hour Meter, Dash Cover

1520 Ford Tractor: Hours unknown

Current Condition: Fair to Good

Work in the last year: Exhaust repair, lighting ***2023 $383.83***

Current Needs: Hour Meter

2019) Falcon Asphalt Hot Box: Hours unknown

Current Condition: Good

Work in the last year: Rebuilt Burners

Current Needs: Hour Meter, Trailer Jack ($250-$300)

Rosco Roll: Hours Unknown

Current Condition: Good

Work in the last year: Basic service and Battery ***2023 $118.14***

Current Needs: May need a valve on vibratory

2019) Morbark 1621 Chipper: 256 Hours

Current Condition: Good to Excellent

Unit has been in storage for the last year with no use

Current Needs: Trailer Jack ($250-$300)

Power Screen: Hours unknown

Current Condition: Fair to Good
Work in the last year: 2 Days correcting wiring of ignition and safety switches, 2 Rolls, ½ day fix hydraulic leaks, 1 Day fix top drive on conveyor plus parts, ($2,070) 2022 Repairs

Current Needs: No major issues that need attention at this point.

Hudson 6 ton trailer:

Current Condition: Fair to Good

Work in the last year: None

Current Needs: Tires and wiring

Custom Haul 25 ton Trailer:

Current Condition: Fair to Good

Work in the last year: Replaced part of the rear deck and installed metal plate on deck did a general service.

Current Needs: will need some brake work/adjustment and rotation of tires

MB tag along sweeper:

Current Condition: Poor

Work in the last year: Battery and service, Tires ***2023 $221.74***

Current Needs: Age of life and motor wear

NOTES :

2023 Repair Expenditures By Vehicle or Equipment

Cost current with invoicing as of 10/23/24 Total $80,022.51

Highway Total: $57,500.53 Truck Total: $36,630.18 Equipment Total: $20,870.35

Highway Trucks:

Truck #1 2022 GMC 2500 None

Truck #2 2016 GMC 3500 $150.05

Truck #3 2015 Dodge Ram 5500 $725.29

Truck #4 2022 Dodge Ram 5500 $57.21

Truck #5 2015 International 6 wheeler $3,119.51

Truck #6 2019 Western Star 6 wheeler $4,911.30

Truck #7 2018 Western Star 6 wheeler $7,238.12

Truck #8 2016 Western Star 6 wheeler $5,098.37

Truck #9 2013 Freightliner 10 wheeler $15,330.33

Truck #10 2021 Western Star 10 wheeler None

Highway Equipment:

Volvo 720B Grader $13,210.56

John Deere 410k Backhoe $3,842.47

Volvo 70G Loader $2,532.64

Ford 1520 Tractor $300.83

New Holland TS90 Tractor $328.51

Ford 5640 Tractor None

Rosco Roll $118.14

Volvo EC160LC Excavator None

Sweeper Tow Behind $221.74

Asphalt Hot Box $315.46

International TD7E Dozer None Power Screen None

Police Department: Total $5,709.45

Car #1 2019 Ford Explorer $509.51

Car #2 2021 Ford Explorer $509.51

Car #3 2020 Ford Explorer $890.74

Car #4 2022 Ford Explorer $110.00

Car #5 2022 Ford Explorer None

Car #6 2022 Ford Explorer None

Car #214 2014 Ford Explorer None

Car #316 2016 Ford Explorer $3,269.43

Car #615 2015 Ford Explorer $420.26

Fire Department: Total $7,105.08

Car #1 2019 Chevy Tahoe None

Utility Truck 2018 Chevy 3500 None

2000 International Rescue $1,101.73

2003 Freightliner Tanker $1,376

2011 E-One Engine 1 $4,385

1998 Smeal International Engine 2 $242.35

Ambulance: Total $1,250.91

Ambulance 1 2002 Ford E450 $1,038.91

Ambulance 2 2017 Ford E450 $ 26.54

Ambulance 3 2015 Ford E450 $185.46

Water & Sewer: Total $4,455.14

Sewer Pump Truck 1991 Chevy None

Kubota 3030 Tractor $4,455.14

Transfer Station: Total $4,001.40

Mac Live floor Trailer None

New Holland LX565 Skid Steer None

1996 Freightliner Road Tractor $4,001.40

Highway Percentage Of Total Spend: 71.85% (Trucks & Equipment)

Highway Trucks 45.77%

Highway Equipment 26.08%

Of that the Grader and Truck 9 were the most spend of $28,540.89 which represents 49.63% of the highway department repair cost

Police Department Percentage Of Total Spend: 7.14%

Fire Department Percentage Of Total Spend: 8.89%

Ambulance Percentage Of Total Spend: 1.56%

Water& Sewer Percentage Of Total Spend: 5.56%

Transfer Station Percentage Of Total Spend: 5.0%

EQUIPMENT LIFE SPANS

MOTOR GRADER

The motor grader is similar to scrapers in that there is little risk to push it past its anticipated B50 component life, which is about 12,000 hours. At 20,000 hours, 20% of motor graders still stand in primary production.

Of course, regular maintenance is still one of the best ways to lengthen the life of this machine, especially if operating it under challenging conditions, like on rocky ground or in dusty environments. Certain operating practices, such as changing the blade to the back position to sharpen it or switching to the left lead during grading along curbs, can help increase its lifespan as well. Overall, motor graders aren't too difficult to keep in good shape, with easy maintenance and access to parts. Regular inspections are also key to keeping blades in top condition.

BACKHOE LOADER

Backhoe loaders don't tend to last as long as some of the other pieces of machinery we've mentioned. After about 6,000 hours, **20% of engines** in 14-15-foot loaders required a major repair or replacement. Typically, by 8,500 hours, 50% of the components in a backhoe loader have reached their end and fail within 3,500 hours.

There isn't a huge difference between the type of work the backhoe loader is doing either. General use and heavy-duty machines see similar engine and transmission life, but axle life can take a big hit of about 19% in heavy-duty work.

Paying attention to component lifecycles is useful for backhoe loaders, but oil-analysis histories can give a more accurate reflection of your machine's remaining life.

WHEEL LOADER

Most general contractors put **about 1,200-1,500 hours on their wheel loaders each year**. A wheel loader's average lifespan is about 10 years, or 7,000-12,000 hours.

If you're wondering how long your wheel loader will last, take a close look at your operators. Making a wheel loader last is all about minimizing the effects of human error. These machines are susceptible to the damage that operators can cause through everyday use, such as excessive use of the brakes or shock loading the drive train. Thankfully, newer machines can have technology that helps adjust for these errors. Looking for these tools, such as acceleration control and clutch modulation, can help you get more from your wheel loader, even with operator error in place.

Another significant effect on wheel loaders is the layout of the job site. Steep slopes, for instance, can negatively influence the component lifecycle. Try to optimize the job site for your equipment.

Additionally, the many different components of a wheel loader have their typical lifespans as well. Here are the expected average hours for some major wheel loader components:

- **Tires:** Tires typically last 4,000-10,000 hours, though appropriate air pressure and retreading practices can help extend that number. Using tires on harsh surfaces or with inappropriate pressure or ballast is a surefire way to shorten their usable life. Be sure you're using the correct tires for the terrain to keep them moving.
- **Bucket:** The bucket of a wheel loader can usually last 7,000-10,000 hours, with operator skill having a significant impact on that number. Maintenance is another crucial factor in keeping a bucket in good condition. Regularly inspect buckets for wear and scalloping.
- **Articulation joint:** The articulation joint typically lasts for 7,000-17,000 hours with proper maintenance. Abrasive materials can

quickly shorten that number for the pins and bushings, no matter how well-maintained the joint is. You'll also want to make sure you properly adjust the joint as needed.

- **Engine:** A wheel loader's engine offers about 8,000-15,000 hours of use. Partial or in-frame rebuilds can provide more life for an engine without the full cost of a replacement.
- **Brakes:** Brakes usually last for about 5,000-15,000 hours, but some operator actions can drastically bring down this number. If they ride the breaks, take ramps or run on short duty cycles, they can diminish the lifespan of brakes. Inboard wet disk breaks offer much longer usage.

Wheel loaders can last a long time, but individual components may necessitate repairs or replacements throughout ownership.

EXCAVATOR

Many contractors end up taking hydraulic excavators out of primary production **at about 9,800 hours** of use. By the time an excavator reaches that number, most components, aside from the engine, have seen some sort of major repair or replacement. Mini-excavators typically offer a similar average lifespan of around 10,000 hours.

For both excavators and mini-excavators, you'll want to pay special attention to the undercarriage wear and the condition of the tracks. Both of these areas can show signs of wear and mechanical issues that can interrupt normal functioning.

DOZER

Bulldozers, like excavators, need special attention to their undercarriage, which supports a powerful machine and is subject to its operating conditions. Make sure that the dozer has an undercarriage specified for the correct type of work you're using it in. For instance, hauling soil across flat ground isn't going to put near as much stress on the undercarriage as heavy or abrasive materials handling in a landfill, crawling over miscellaneous items and tough terrain. The differentiation between standard and heavy-duty undercarriages exists for a reason. Following proper handling and best practices for operation, such as limiting reversing, can also help minimize damage to the undercarriage.

The **average bulldozer lifespan is about seven to 10 years** for most contractors.