

**Automotive - 4700**  
 4700 112 Avenue SE  
 Calgary, Alberta, T2C 2K2  
 (403) 248 - 2810



**Invoice: INV-S5-1687**  
 Issue date: Jun 6 2024  
 Due date: Jul 6 2024

**Bill To**

Prairie Pride Construction Ltd (IBS#: 827572)  
 112 Elk Run Boulevard  
 Canmore, AB

**Remit payment to**

Foothills Group Inc c/o Interstate Billing Service  
 C/O T04220C  
 Toronto, Ontario M5W 3B9  
 (403) 523 - 0488

Unit	Vin	Vehicle	Mileage	Eng Hrs
	3C7WDNEL5CG214919	2012 Dodge Ram Chassis Cab	288,251	
Service Order	Terms	Due date	Customer PO	Authorizer
S5-1687	Net 30	Jul 6 2024	T13	zG0910

Description	Quantity	Rate	Amount
***Call Murray (403)678-0550 - ..			\$0.00
		<b>Line Total</b>	<b>\$0.00</b>

**Diagnose temperature warnings on dash, customer suspects cylinder head gasket failure - Just purchased from auctions, believes head gasket failure is present**

Vehicle was brought to the shop for an entry inspection where the cooling system components were accessed. The reservoir was found to be overfilled with coolant and there was spilled coolant around the radiator cap and air filter housing. Upon checking the fluid level, it was discovered that the system was low on coolant. After inspecting the EGR temp sensor and crossover pipe, both were found to have moisture present. A cooling system pressure gauge was attached and the vehicle was run to monitor pressure levels; it was observed that the system pressure rapidly built up under load. Additional symptoms included excessive white smoke from the tailpipe. After partially topping up the cooling system, which was about 4 liters low, tests confirmed the presence of combustion gases leaking into the system consistently. It is recommended to remove the EGR crossover pipe and to pressure test the cooling system for EGR cooler leaks. If no leaks are found in the EGR cooler, cylinder head gasket replacement, machining, cleaning of the cylinder head, and checking of the block deck surface are advised. Further diagnostics are necessary. Job completed.

\$356.39  
**Line Total \$356.39**

**COPY**

**Replace cylinder head gasket - As per diagnosis**

Removal and replacement of the cylinder head gasket was completed. During the process, several components were found to be missing bolts and damaged. The EGR cooler was identified as leaking engine coolant into the intake and exhaust, for which the customer will need to source a unit. The coolant cross-over tube required bending to fit correctly under the exhaust manifold without rubbing. Components were replaced as supplied, bled, and used components inspected and installed. All removed injectors, tubes, and rockers were re-installed in their original positions. Additional time was taken to remove carbon and coolant from the throttle valve, grid heater, and air intake assembly, which were then cleaned and re-installed. After starting the vehicle, a significant amount of coolant was observed in the DPF system. An OFL service was performed after the vehicle was running as per the service requirements. A test drive and REGEN were carried out to ensure all coolant was removed from the exhaust. Resets were performed where necessary, and the vehicle was taken for a final drive. The vehicle is in good condition at this time. Job completed.

\$2,324.25

<b>O Ring</b>	5	\$68.96	\$344.80
<b>Global Coolant</b>	20	\$14.94	\$298.80
<b>Thermostat w/ gasket</b>	1	\$76.90	\$76.90
<b>Air intake gasket</b>	1	\$135.55	\$135.55
<b>Cylinder gasket</b>	1	\$532.90	\$532.90
<b>Brake Cleaner</b>	2	\$6.99	\$13.98
<b>Washer</b>	5	\$35.80	\$179.00
<b>Exhaust manifold gasket set</b>	1	\$76.75	\$76.75
<b>Intake gasket</b>	1	\$68.13	\$68.13
<b>Housing</b>	1	\$46.43	\$46.43
<b>Double bolt</b>	7	\$62.23	\$435.61
<b>EGR gasket</b>	1	\$95.73	\$95.73
<b>Hex bolt</b>	5	\$57.40	\$287.00
<b>Coolant temp sensor</b>	1	\$46.27	\$46.27
<b>Exhaust spacer</b>	4	\$40.10	\$160.40
<b>Gasket</b>	1	\$167.06	\$167.06
<b>Cylinder head bolt set</b>	1	\$469.17	\$469.17
<b>Breather</b>	1	\$299.75	\$299.75

**Line Total \$6,058.48**

**(OVERLAP) Replace EGR cooler (SUPPLIED - no parts warranty) - Failed, full of coolant**

Install used (supplied) component.

\$0.00

**Line Total \$0.00**

**Dissassemble cylinder head, package and send out for cleaning, resurface and pressure testing - Failed cylinder head gasket**

Complete disassembly of cylinder head including cleaning of removed components, as well as packaging for shipping to have head planed and re surfaced. Unpackage head, full re-assemble and prep for installation. Job complete.

\$309.90

**Clean, test, plane** 1 \$643.50 \$643.50

**Line Total \$953.40**

Repair damaged coolant cross over tube - During removal, found the coolant cross-over tube bent, rubbing on exhaust manifold requires bending and possible fabrication to fit correctly under the exhaust manifold.

Adjust and manipulate components to ensure proper fit and clearance with the exhaust components. Verified that the pipe is not leaking coolant post-repair. Hardware for component was missing, had to find applicable bolts for proper installation. Tested and confirmed normal operation at this time. Job completed.

\$309.90

**Line Total \$309.90**

Oil change w/ check over - synthetic - diesel truck/SUV/van (\$249.99) - Required during major internal engine repairs

Performed oil change service, added stickers, reset reminders, ensured levels are good, and no leaks are present. Job completed.

(NS) 5w40 fully-synthetic engine oil

12

PF1070A engine oil filter

1

**Line Total \$249.99**

Perform REGEN with multiple test drives to confirm repairs - Required after cylinder head re surfacing. Coolant and excess carbon throughout exhaust system

Test drive and REGEN were carried out to ensure all coolant was removed from the exhaust. Resets were performed where necessary, and the vehicle was taken for a final drive. The vehicle is in good condition at this time. Job completed.

\$232.43

**Line Total \$232.43**

Replace wiper blades - Wiper blades are streaky

Removal and replacement of wiper blades. Job completed.

Optix wiper blade (assorted 15"-28")

2

\$15.00

\$30.99

\$30.00

**Line Total \$60.99**

Quality control check over - ..

..

\$0.00

**Line Total \$0.00**

**Labor \$3,813.85**

**Parts \$4,407.73**

**Shop supplies \$150.00**

**Subtotal \$8,371.57**

**Federal Tax Rate (5%) \$418.58**

**Total \$8,790.15**

**Payments**

**Balance \$8,790.15**

Any warranties on the parts and accessories sold hereby are made by the manufacturer. You understand and agree that we make no warranties of any kind unless expressed in writing. You hereby authorize us to perform the repair work herein set forth and to purchase the necessary material and parts to perform such repair work. You agree that we are not responsible for loss or damage to your vehicle or articles left in your vehicle in case of fire, theft, or any other cause beyond our control or for any delays caused by unavailability of parts or delays in part shipments by the supplier or transporter. In addition, you agree that we are not responsible for damages to your vehicle from freezing due to lack of antifreeze. You hereby grant our employees permission to operate your vehicle on streets, highways, or elsewhere for the purpose of testing and/or inspection. You acknowledge and agree that an express mechanic's lien on your vehicle is granted to secure payment of this invoice for the repair work detailed in this invoice.

Customer signature: \_\_\_\_\_

Printed name: \_\_\_\_\_ Date: \_\_\_\_\_