

RR1

perihhd@gmail.com

204-648-3122



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6/28/2021

Remit Payment To

Perih Heavy Duty Inc

RR1

Gilbert Plains, MB R0L 0X0, CA

P: 1-204-546-2752

Service Order	Terms	Due Date	Authorizer	Customer PO	Service Writer	Unit #
1240	COD	6/28/2021	Lowell Penner		Perih, Steven	

Item	Description	Quantity	Rate	Amount
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Complaint: Repair Engine Knocking and Smokes White

Cause: Customer request

Item	Description	Quantity	Rate	Amount
Labor	Correction:	54.00000	\$100.00	\$5,400.00
	Engine / Overhaul / Diagnosed issue to be major engine failure due to the sudden loss of coolant. Removed engine from machine and bring back to shop for tear down and inspection. Set engine on blocks and began removing external pieces and Remove head. Found damage on cylinders 1,4,6 scoring on pistons and bore. Flipped engine on end and removed oil pan and began disassembly of connecting rods and pistons. Removed timing gear cover and housing and all gear train and flywheel housing. Removed all main bearing caps and pulled crank from engine set bare block on pallet with crank shaft, Connecting rods, Injectors and head to be sent away to be machined and polished. Priced and ordered all parts. Got engine back and flipped over onto top to install crank shaft. Thoroughly cleaned all parts and removed all gaskets to prep for assembly. Installed new piston cooling jets into block and installed main bearings. Installed crankshaft into block and torqued to spec. Plastiguaged is at .0015" for mains and .0015 for rods. Ring gap is at .025" and oil groove is at .018" Installed flywheel housing with new gasket and flipped engine onto flywheel housing to work on the timing gears. Installed timing gear housing with new gasket and torqued to spec, Installed new oil pump into block with grease in the gears and torqued bolts to spec. Installed new water pump and installed lifters into their respected holes. Installed camshaft into engine and torqued lock bolts. Installed pistons into engine and installed new connecting rod bearings. Found that half of the bearings were wrong, the lock tabs were on the wrong side of bearing. Installed what we could and torqued to spec installed the other pistons and left the bearings out. Installed new head gasket with new bolts and torqued to spec in proper sequence. Lifted engine up and set onto stands and installed the last three connecting rod bearings when new parts arrived. Installed oil pan with new gasket and sealant on front and rear cover joints. Set engine onto the ground. Installed and timed fuel pump .Installed rocker arm assembly and performed top end set, Installed valve covers with new gaskets. Installed injectors and lines. Installed intake and heater and fuel filter housing with new seals on lines. Installed new updated thermostat as well. Installed exhaust manifold with new gaskets and new turbo gasket. Installed starter into flywheel housing. Loaded engine up and brought out to the bush for installation. Installed engine in machine and filled with customer supplied fluids. Adjusted throttle linkage and ran to test for leaks. Got engine running but will have to come back to replace vibration damper as the one sent was incorrect. Came back at a later date and replaced damper with new correct one. - 6/28/2021			
Parts	O-Ring	1.00000	\$6.46	\$6.46
Parts	Exhaust Manifold Screw	12.00000	\$6.04	\$72.48
Parts	Oil Pump	1.00000	\$172.3325	\$172.33
Parts	Water Pump	1.00000	\$172.898	\$172.90
Parts	Cylinder Head Capscrew	6.00000	\$6.88	\$41.28
Parts	Cylinder Head Capscrew	14.00000	\$10.15	\$142.10
Parts	Oil Cooler	1.00000	\$184.1355	\$184.14
Parts	Thermostat Kit	1.00000	\$41.7745	\$41.77
Parts	Engine Overhaul Kit	1.00000	\$1,225.8625	\$1,225.86
Parts	Vibration Damper	1.00000	\$209.3365	\$209.34
Parts	Nozzle	1.00000	\$85.9125	\$85.91
Parts	Shim	6.00000	\$2.62	\$15.72
Parts	Shim	6.00000	\$1.65	\$9.90

Item	Description	Quantity	Rate	Amount
Parts	Injector Motor	1.00000	\$225.00	\$225.00
Parts	Injector Pump/Connector	1.00000	\$5.00	\$5.00
Parts	Seal	1.00000	\$2.00	\$2.00
Parts	Control	1.00000	\$2.00	\$2.00
Parts	Fuel Filter	1.00000	\$22.00	\$22.00
Parts	Fuel Filter	1.00000	\$14.00	\$14.00
Parts	Oil Wgt	1.00000	\$25.00	\$25.00
Parts	Water Pump, Drainage/Red/Walk	1.00000	\$2,513.00	\$2,513.00
Parts	Water/Pu/Boiling	1.00000	\$14.00	\$14.00
Parts	Boiling	1.00000	\$12.00	\$12.00
Parts	Play/Extension	1.00000	\$11.00	\$11.00
Parts	Water Seal-Seal	1.00000	\$5.00	\$5.00
Parts	Water Seal	1.00000	\$27.00	\$27.00
Parts	Seal-Pu	1.00000	\$22.00	\$22.00
			Subtotal	\$12,556.00

Service to unit

Labour	Service to unit (Service Call)	1.00000	\$110.00	\$110.00
	Warranty Grease/Filter			
			Subtotal	\$110.00

Freight

\$50.00

Unit: 986-0707-0072
 Hydraulic Pumps/200.7/1
 Engine: 4.500 Hours

Labour: \$5,750.00

Parts: \$5,544.00

Shop Supplies: \$200.00

Pre Tax Total: \$11,544.00

GST (5.0000% of \$11,544.00) \$277.00

PST (7.0000% of \$11,544.00) \$206.11

Total: \$12,027.11

Payments & Credits: \$5.00

Balance Due: \$12,022.11

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