



## Invoice Preview 8000332224

Nors Acheson  
25616 117 AVENUE  
Acheson Alberta T7X 6C2  
TEL: FAX: 780-948-3541

Date Opened: 23 September, 2025 09:23:20pm

Opened By: ANTHONY FOSTER

**CUSTOMER #: 7044660**

**TUNDRA LINE**

SLAVE LAKE, Alberta, T0G 2M0

**REPAIR LOCATION:**

Repair Location:  
Contact Name: Dean  
Telephone:

Customer Purchase Order: Paid \$18626.69 cheque

Job Code #: Y009-Customer Charge

Terms: NCOD

Responsible Group: Multi-Line Shop Service

Pay GST: Y

Equipment #: 2001576

Customer Unit #:

Pay PST: Y

Make: VOLVO

Model: A30D

Mfg Serial #: 10316

Engine Model:

Engine Serial #:

Hour Meter: 15935

Warranty:

Machine Down: No

### Description

Unit only drives in reverse

July 18/22 - Filled out FLRA. Troubleshoot machine not going into any of the forward gears. Connected computer and read off DTCs - PID 84-9 Road speed sensor and SID 21-11 SE2703 are active, no direct transmission codes. Did the transmission solenoid click test - all the solenoids accept for the PWM4203 lockup modulation solenoid clicked. Put a pressure gauge onto the K1 test port and got no pressure in any forward gears. PID 84 code shows V-ECU as a possible cause of that issue - programmed a test V-ECU and that code went away. SID 21 still active and the machine still has no forward.

July 19/22 - Filled out FLRA. Backed the machine into the shop. Removed the rear skid plates and support bar to gain access to the oil pan of the transmission. Removed the transmission filters and cut them open - oil smelt burnt, lots of friction material in the filters. Removed the oil pan - more friction material in the pan. Cleaned up area and tooling.

July 27/22 - moved press and parts table in prep of moving truck from bay 11 across to. Caged the park brake and hooked up the truck to the forklift. Backed the truck into bay 2, blocked and locked out the machine. Removed front belly pan, drain engine oil and coolant. removed coolant tank. disconnected wiring at bottom of engine 2 pumps

July 28/22 - removed some hyd lines around the engine. Removed tran filter housing and disconnected hoses going to the tran. Disconnected wiring on the right-side including the . Unmounted the ac compressor and moved up and out of the way. Removed the upper and lower charge air line to the engine. removed the wiring onto of the engine going to the coolant tank and pre heat. Main engine harness to the machine from the engine.

July 29/22 - removed the cab mats and then the drivers seat. Once the mid floor panel was removed, also removed retarder pedal and exploratory pedal. Disconnected wiring to the brake pedal and then moved it out of the way. Disconnected the steering column and removed the front floor

Nors Acheson  
25616 117 AVENUE  
Acheson Alberta T7X 6C2  
TEL: FAX: 780-948-3541

Date Opened: 23 September, 2025 09:23:20pm

Opened By: ANTHONY FOSTER

panel. disconnected air vent hose and dip stick tube. removed the driveshaft bolts. removed the mid support for the belly pans. disconnected the 4 pumps from under the engine and let them hang.

Aug 2/22 - Filled out FLRA. Assisted with removing the engine/transmission from the machine. disconnected wiring to the starter. Disconnected 2 coolant lines to the cab heater. Disconnected wiring clamps at the back of the engine. Rigged the engine to be lifted. Removed engine mounting bolts. Lifted the engine and transmission up and out of the machine. placed on stands. removed coolant lines from the transmission. removed torque convertor bolts, removed mount bolts from the transmission to engine. lifted the transmission off the engine. got the new transmission from shipping and moved it over. ordered needed clamps and orings.

Aug 3/22 - Take transmission to wash bay and clean up core. Tilt it on end and install torque converter in transmission. Clean up engine bay area. reinstalled oil pan onto old transmission. Set old transmission on to movable stand so Chris could clean it. Removed fly wheel and gear to get at rear engine seal. Inspected gear for wear and it was all good. Removed needed coolant and oil lines for the transmission oil coolers. removed both transmission oil coolers. installed new oil coolers with new o-rings. reinstalled coolant and oil line to the coolers. cleaned the bell housing of oil and also the gear so it was ready to install once the new o-ring and seals are in. cleaned up around the machine and drained oil catch buckets, swept up floor dry from under the machine

Aug 5/22 - installed new o-ring and seal onto seal retainer. Installed timing gear and other smaller gear. Installed seal retainer. Cleaned fly wheel and installed, torqued bolts to spec. rigged and lifted new transmission up and then moved it into place with the engine. installed transmission mounting bolts and torqued to spec. rotated the torque convertor and installed bolts connecting the flex plate and torque convertor, torqued to spec. installed hoses from oil cooler to retarder valve. fixed ground wire. moved all belly pans and cross supports to the wash bay and cleaned the mud off them.

Aug 8/22 - fixed a ground wire going to the starter. Installed the last coolant hose and made sure the hose was wrapped to prevent rubbing. Removed rigging from the transmission and prepped the engine and transmission to be lifted

Aug 9/22 - lifted the transmission and engine up and into the machine. Hooked up the needed coolant lines and wiring as the engine and transmission were getting put into place. Installed engine mounting bolts and had them torqued to spec. reconnected steering in the cab as well as the brake. reconnected the retarder pedal and the gas pedal. reconnected the transmission fill tube, air breather and the dip stick tube. reconnected the alternator, a/c and the e-ecu. reinstalled air line. reinstalled coolant lines and reservoir. reconnected the intake pipe for the turbo. reconnected the exhaust pipe to the engine. put engine and transmission in machine, install pumps, connect wiring and hoses. Filled out FLRA. Assisted with installing a couple hydraulic pumps.

Aug 10/22 - filled engine oil. Started to fill coolant and found a leak off of one of the. Drained the coolant and removed pipe, found o-ring

Nors Acheson  
25616 117 AVENUE  
Acheson Alberta T7X 6C2  
TEL: FAX: 780-948-3541

Date Opened: 23 September, 2025 09:23:20pm

Opened By: ANTHONY FOSTER

was pinched and needed to be replaced. Reinstalled pipe and started to fill again and found a second coolant leak off the oil cooler. removed pipes and hoses from coolant tank removed coolant tank and turbo intake pipe to gain room around oil cooler. removed clamp inspected o-ring, o-ring looked good reinstalled clamp with new bolt. reinstalled all pipes and coolant tank. filled coolant and no more leaks found. removed lock out lock and went to start machine. needed to hook up the battery cart and then the machine started. checked for leaks around the engine, a couple of clamps needed to be tightened. error codes found on the dash se2602-3 temp sensor for coolant, se9102-4 valve block sensor and se2703-11. se2603 temp sensor needs replacing due to broken wiring, ordered new. se9102-4 found loose connection reconnected and code disappeared. se2703-11 engine speed sensor, not getting the correct info from it or from sensor se2701 as they work together and if one isn't responding the other one is used and a code is created. new sensors ordered. Filled out FLRA. Assisted with troubleshooting electrical issues. finish connecting wires and hoses, put seat in, connect drive shaft to transmission

Aug 11/22 - cleaned up around the machine in prep of moving machine outside to calibrate transmission. Started the machine and unhooked the battery cart. Went to grab the computer and the machine died. Hooked up the battery cart again and restarted. restarted again checked the voltage at the alternator, only 1.8 volts coming from the signal wire and 9 volts from the feed. checked the voltage of the battery and they at 9 volts. disconnected the batteries and checked individually front battery at 11.9 volts and the rear was at a -2.6 meaning it had a broken internal cell. load tested the front battery and it dropped below 9volts when 450amps of load was applied. removed front battery and tried to charge on the bench removed rear battery. installed new batteries and the machine started up and stayed running. rechecked the alternator and it had 24.4 volts feed and still 1.9 volts signal. jumped the alternator to get a signal and see if the alternator would work, alternator got a 13.5 volt signal and 27.7 feed. left the machine side over break and restarted up and had 27.7 volts. went to move the machine and got a brake error, check and filled brake fluid. still had code, check brake pot, and the left pot had a longer then normal stroke. rear front brakes need to be bleed

Aug 12/22 - assist Kiall S. bleed front rear calipers after filling up bot brake fluid pots. Front left needed new bleed screws as they were plugged. Once brakes were bleed started the machine and the brake warning light was gone. Started the machine and drove it around the yard to get it up to operating temp. once at operating temp hooked up the computer to do a calibration. once the machine was at the right temp to test the test wouldn't start. test stated that if this happens then there are parameters missing so the test can't continue. sourced info on getting these parameters and the machine would need to be updated to a new Tran ECU and then still need at least 5 system updates. with the shifting of the machine not being very jerky Ani was going to talk to the owner about what it was needed and recommend not updating. moved the machine back inside.

Aug 15/22 - replaced the SE2703 sensor with new to see if the code SE2703-11 would clear. Once replaced started the machine and code came back. Replaced SE2701 as it also gives engine speed. Once replace



## Invoice Preview 8000332224

Nors Acheson  
25616 117 AVENUE  
Acheson Alberta T7X 6C2  
TEL: FAX: 780-948-3541

Date Opened: 23 September, 2025 09:23:20pm

Opened By: ANTHONY FOSTER

started the machine and the code returned. Sourced info on wiring diagrams and more info on other tests. looked for a break out harness to test wiring and component. none found that would connect right. tested the wiring, wiring had continuity and no sign of being grounded. switched the sensor back to the originals and tested signal to the pos and neg of the sensor from the ECU. error code possible from the ECU. put all the wiring and sensor back to original. put the floor back into the cab, reinstalled cab mats. reinstalled the ECUs in the cab. reinstall cab panels.

Aug 16/22 - zapped strapped loose wiring from around pumps. Set and installed cross beams and belly pans. Topped up coolant. Started and ran machine to operating temp to check the tran level as it was reading high. Removed tran oil to correct oil level for tran. error code SE 2603-5 showing on the dash. checked code out and located sensor, it wasn't full connected. reconnected and checked dash, code was gone. moved the machine outside. customer came and talked about a loose shock on the right front. ordered parts, moved machine into bay 6. prep machine to lift and set on stands. removed and replaced front right shock with new. lowered machine off stand and back onto the floor. moved the machine back outside. swept bay 6 and bay 2.

Aug 17/22 - did parts return paperwork and returned unused parts to shipping. Lited the tran and used coolers on t a pallet and strapped them down, wrapped in plastic. Cleaned up around bay 2 and removed used parts

Product Id	Description	Qty		Unit Price	Net Value
VOE15143347	Volvo Automatic Transmission Fluid 97342	3	EA	176.43	529.28
	Above part includes a disposal fee of \$ 5.70				
VOE20787709	V-CLAMP	2	EA	18.90	37.80
VOE963559	HEXAGON SCREW	2	EA	1.32	2.63
VOE11030312	SEALING RING	1	EA	24.00	24.00
RR-RCD16-734	ANTIFREEZE EXT LIF	5	EA	42.41	212.07
VOE11445263	O-RING	7	EA	30.04	210.25
VOE11039193	TEMPERATURE SENSOR	1	EA	242.74	242.74
FREIGHT-IN	FREIGHT-IN	4	LE	7.00	28.00
BA-4DLT-VHD	860 CCA BATTERY-A	2	EA	201.95	403.90
VOE15066831	BRAKE FLUID	1	EA	12.16	12.16
	Above part includes a disposal fee of \$ 0.10				
VOE6212985	AIR VENTING SCREW	2	EA	21.39	42.78
VOE11121119	SHOCK ABSORBER	1	EA	1,249.92	1,249.92
VOE20441697	SEAL	1	EA	103.55	103.55
VOE984470	O-RING	1	EA	23.65	23.65
VOE1542778	V-CLAMP	8	EA	26.62	212.99
VOE984728	FLANGE SCREW	8	EA	1.79	14.30
VOE982193	O-RING	2	EA	12.25	24.49
VOE982194	O-RING	2	EA	11.89	23.77
VOE1675066	SEALING RING	6	EA	6.55	39.30
VOE3943850	CLAMP	1	EA	79.88	79.88
VOE977015	O-RING	1	EA	5.24	5.24
VOE941878	TAB WASHER	1	EA	4.87	4.87
VOE7015025	TAB WASHER	2	EA	25.43	50.86
VOE977016	O-RING	1	EA	12.51	12.51
VOE13947281	GASKET	1	EA	1.28	1.28
VOE8159013	HOUSING	1	EA	9.74	9.74
VOE8155903	SOCKET TERMINAL	2	EA	2.99	5.98
VOE940333	RING TERMINAL	1	EA	5.17	5.17



Invoice Preview 8000332224

Nors Acheson  
25616 117 AVENUE  
Acheson Alberta T7X 6C2  
TEL: FAX: 780-948-3541

Date Opened: 23 September, 2025 09:23:20pm  
Opened By: ANTHONY FOSTER

Product Id	Description	Qty		Unit Price	Net Value
VOE977025	O-RING	4	EA	15.30	61.20
VOE11115374	HYDRAULIC HOSE	1	EA	851.38	851.38
Parts:					4,525.69
Labour:					13,213.99
Travel Labour:					0.00
Mileage: 0.000					0.00
Expenses:					0.00
Environmental Fees:					0.01
Consumables Fees:					0.01
Sub-Total:					17,739.70

GST: 886.99  
-----  
Total: 18,626.69