



# Vander Haags Inc.

4444 Delaware Ave  
Des Moines, IA 50313  
515-265-1451  
Fax: 515-265-1120

Service

Work Order: 2-152101

Date 2/14/2020

Salesperson: Denny Keller

Mileage: 693,581

Mileage 693 581

Engine over haul in frame

# 129

## I-80 TOWING

4100 E 16TH ST  
4100 E 16TH ST  
DES MOINES IA 50313  
515-276-1853

### Customer Unit: 8887

Type: 9000 - Truck  
Y/M/M: 1997 International 9200  
VIN: 2HSFLATN6WC038887  
Mileage: 693,581

### Engine Overhaul

Engine

### Complaint:

Engine over haul in frame

### Cause:

Over haul engine

### Correction:

Had truck towed in the shop, customer wanted truck overhauled, water pump was new, began removing components, to removed head, got all of that stuff off, removed upper internal engine components, rockers, push rods, injectors, etc, removed head, had it sent out, drained oil, removed oil pan, removed pickup tube, sprayed down with brake clean, removed pistons, and liners, cleaned counter bores, checked block for cracks with spray, checked counter bore height on all 6 liner, and in 4 positions counter bores were good, replaced main bearings, installed new liners, checked liner protrusion, it was good, installed pistons, got reman head and installed it, inspected all components, some cam lobes and rollers are starting to wear, customer did not want either one replaced, torqued head to spec, cleaned all internal engine componets and installed them, new o rings on injectors, ran overhead and installed valve covewrs, adn all external components that were removed, there was no freon in a/c system, started truck up, and checked for leaks, no leaks found, had harrold take it ofr a test drive, checked all fluids when it got back, its ready for the dyno

Test drive Runs nice! (HP)

Book truck to Ohalloran's for dyno break in

### Parts (Job 273130)

Item	Description	Price	Qty	Amount
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Spencer, IA 51301	Des Moines, IA 50313	Sioux Falls, SD 57104	Council Bluffs, IA 51503	Kansas City, MO 64129	Winamac, IN 46996
3609 4th Ave W Hwy 71 and 18 (712) 262-7000 (800) 242-5030	4444 NE 22nd St Delaware Ave (515) 265-1451 (800) 262-5030	1423 E 54th St N Cliff Ave N (605) 336-6737 (800) 274-5030	50200 189th St I-29 Exit 42 (712) 323-9000 (888) 323-5030	7501 E US Hwy 40 I-435 and I-70 (816) 923-7500 (866) 466-5030	495 E 150 South US 35 and Highway 50 (574) 946-6149 (866)-684-5030

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DS N1620683VS	Engine Head Assembly (CAT 1620683) NEW C12 HEAD COMPLETE WITH VALVES	2,567.50	1	2,567.50
Shipping & Handling - IA	MBO (VH FREIGHT) Iowa Shipping & Handling	135.00	1	135.00
PA C10101-001	Engine Overhaul Kit (PA C10101-001) KIT,ENGINE(C10)	2,769.90	1	2,769.90
PA 321297	Gasket, Engine Misc (CAT 2245797) KIT, O-RING	7.67	2	15.34
MB 2245797	Gasket, Engine Misc (CAT 2245797) Gasket Set - Single Fuel Inj	7.67	4	30.68
MB 1182797	Gasket - Lines Group - Water	2.23	4	8.92
CAT 3618205	O-RING	6.51	1	6.51
MB 7E5555	GASKET WATER PUMP CAT	0.66	1	0.66
MB 4P4369	Spacer	5.80	12	69.60
CAT 152-3001	INJECTOR HOLD DOWN BOLT C12/C10	1.02	6	6.12
CAT 1280331	MOLDED HOSE	4.79	1	4.79
MB 1163715	Engine Fastener (CAT 1163715) Stud - Taperlock	6.29	12	75.48
MB 3E8017	Engine Fastener (CAT 3E8017) (CAT) - LOCKNUT - HIGH TEMP	2.77	12	33.24
CAT 176-4168	INTAKE VALVE BRIDGE	38.02	12	456.24
CAT 5L2952	OIL FILL CAP	7.14	1	7.14
KEN AP2177	Fitting (KEN AP2177) ADAPTER, 45 DEGREE, AIR COMPRESSOR, 1/2" SAE TO 1/2" NPT, Type AIR, Size 1/2	11.77	1	11.77
CAT 1666352	TUBE ASSY STEEL	79.73	1	79.73
DO P551311	CAT SPIN-ON FUEL FILTER	15.19	1	15.19
DO P554005	CAT OIL FILTER NON ACERT ENGINES	18.23	2	36.46
DO P533235	Air Filter, Length 18.15" (461 mm) , Outer Diameter 13.09" (332 mm) , Inner Diameter 6.78" (172 mm) , Navistar 2005895C1	67.55	1	67.55
GRE AT-4SS	CLAMP, 4" AIR T-BOLT SS : Type T-BOLT	8.93	1	8.93
AO 7205070719	15W40 ROTELLA T CJ-4 (QT)	3.86	1	3.86
PPI COOLANT PLUS 50/50	COOLANT PLUS GOLD HD (HOAT) 50/50 UNIVERSAL EXTENDED LIFE ANTIFREEZE	7.09	1	7.09
SUBLET	O Halloran Dyno: 3691444	400.00	1	400.00

Job Parts Total: 6,817.70  
 Labor 5747.50  
 Shop Fee 517.28  
 EPA Fee 0.00  
 Job Total 13,082.48



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3809 4th Ave W    4444 NE 22nd St    1423 E 54th St N    50200 189th St    7501 E US Hwy 40    495 E 150 South  
 Hwy 71 and 18    Delaware Ave    Cliff Ave N    I-29 Exit 42    I-435 and I-70    US 35 and Highway 50  
 (712) 262-7000    (515) 265-1451    (605) 336-0737    (712) 323-9000    (816) 923-7500    (574) 946-6149  
 (800) 242-5030    (800) 262-5030    (800) 274-5030    (888) 323-5030    (866) 466-5030    (866) 684-5030

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Date: 2/14/2020  
Salesperson: Denny Keller  
Mileage: 693,581

### Battery And Cables

Electrical

#### Complaint:

Battery

#### Cause:

Batteries bad

#### Correction:

Replaced the batteries in the truck

### Parts (Job 274590)

Item	Description	Price	Qty	Amount
BAT VMF31S-9	NEW COMMERCIAL 925 CCA GROUP 31 STUD STYLE BATTERY	98.00	3	294.00
BAT VMF31S-9 CORE	Core Charge NEW COMMERCIAL 925 CCA GROUP 31 STUD STYLE BATTERY	34.80	3	104.40
BAT VMF31S-9 CORE	Core Return NEW COMMERCIAL 925 CCA GROUP 31 STUD STYLE BATTERY	34.80	-3	-104.40
Job Parts Total:				294.00
Labor				85.91
Shop Fee				7.73
EPA Fee				0.00
Job Total				387.64

### Air Leaks

#### Complaint:

Check over for air leaks

#### Cause:

Brake pedal stuck

#### Correction:

Removed pin from brake pedal, removed plunger, cleaned up, and anti seized, cleaned up pin and anti seized that as well, put pedal back on and it worked great

Labor	118.58
Shop Fee	10.67
EPA Fee	0.00
Job Total	129.25



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Mileage: 693,581

Subtotal:	\$	13599.37
Tax:	\$	0.00
Total:	\$	13599.37



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# Vander Haags Inc.

4444 Delaware Ave  
Des Moines, IA 50313  
515-265-1451  
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Service

Work Order: 2-161424  
Date: 10/19/2020  
Salesperson: Jacob Kersey  
Mileage:

### I-80 TOWING

4100 E 16TH ST  
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DES MOINES IA 50313  
515-276-1853

### Customer Unit: 8887

Type: 9000 - Truck  
Y/M/M: 1997 International 9200  
VIN: 2HSFLATN6WC038887  
Mileage:

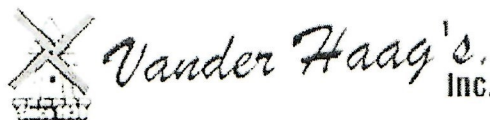
Diagnostic and Camshaft Replacement - Customer pay Also replace turbo and pinion  
oil

Camshaft

### Complaint:

REPLACE CAMSHAFT

### Correction:



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## Service

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Date: 10/19/2020

Salesperson: Jacob Kersey

Mileage:

cleaned up cam gear really well.  
replaced up crma gear and installed it on new cam  
replaced at came and installed new cam bearings.  
replaced bed everything up  
replaced stalled cam in truck and timed it  
replaced stalled thrust pin in block and torqued to spec  
replaced and made sure i had backlash at cam gear. removed old front cover gasket.  
replaced cleaned sealing surface.  
replaced stalled new gasket  
replaced cleaned bolts  
replaced and cleaned front cover  
replaced stalled front cover  
replaced stalled new front main seal.  
replaced stalled balancer  
replaced stalled idler pulley and bracket dipped roller assemblies in oil  
replaced stalled  
replaced torqued to spec  
replaced cleaned deck.  
replaced stalled head gasket  
replaced stalled head  
replaced torqued head bolts

replaced cleaned lower rocker housing  
replaced installed new gasket.  
replaced stalled and torqued bolts.  
replaced cleaned water manifold.  
replaced stalled new gaskets and torqued bolts.  
replaced cleaned intake manifold  
replaced and installed new gaskets and torqued bolts  
replaced cleaned exhaust manifold.  
replaced stalled studs in head and installed new gaskets and torqued nuts

replaced went to put turbo on  
replaced checked bearing found bearing in turbo bad  
replaced being sent out for repair  
replaced checked engine harness up  
replaced stalled fan uhub  
replaced to compressor  
replaced and alernator  
replaced stalled belts as well  
replaced in truck harnes to alternator and sensors t  
replaced d everything up real nice like  
replaced cleaned up work area



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Mileage

leaned up tools  
installed radiator  
got all mounts tight  
installed fan  
hooked up a/c lines  
pulled a vacuum for an hour and charged a/c system to 3.5 lbs  
installed lower radiator hose. installed coolant lines.  
filled with coolant.  
installed hood springs and shock.  
installed number 4 and 6 injector there brand new  
and installed bridges and rockers on 4 and 6. got injector o rings.  
leaned injectors up  
installed new o rings  
cleaned up bridges and push tubes.  
inspected again.  
leaned up rockers.  
installed injectors  
installed bridges  
installed push tubes and rockers  
ran overhead  
put fresh oil all over top end.  
installed valve covers.  
hooked up remaining wiring and hooked up air to air tube.  
waiting on turbo to get back from being rebuilt.

## Parts (Job 290982)

Item	Description	Price	Qty	Amount
CAT 129-2887	Engine Camshaft (CAT) RECON CAMSHAFT	764.75	1	764.75
CAT 129-2887 CORE	Inherent core charge on Engine Camshaft (CAT) RECON CAMSHAFT	725.00	1	725.00
CAT 129-2887 CORE	Core exchange credit for Inherent core charge on Engine Camshaft (CAT) RECON CAMSHAFT; Part# 1292887	725.00	-1	-725.00
MB 2165584	Engine Cam Bushing (CAT 2165584) (CAT) - BEARING - CAMSHAFT C10-C12 1 REQUIRED FRONT BUSHING	16.45	1	16.45
MB 2165583	Engine Cam Bushing (CAT 2165583) (CAT) - BUSHING - CAMSHAFT 5 REQUIRED MIDDLE BUSHINGS	17.37	5	86.85
MB 2165585	Engine Cam Bushing (CAT 2165585) (CAT) - BEARING - CAMSHAFT C10-C12 1 REQUIRED REAR BUSHING	18.69	1	18.69
24860888	Engine Cam Follower (2001 International 9100 CAT 1482065) CAM FOLLOWER ASSEM	250.00	2	500.00
MB 1260110	Seal Group - Crankshaft, Location FRONT	23.78	1	23.78
PA 331472	GASKET COVER FT	111.38	1	111.38
MB 154916	POWER STEERING PUMP GASKET (PAPER)	1.49	1	1.49



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Work Order: 2-161424

Date: 10/19/2020

Salesperson: Jacob Kersey

Mileage:

CAT 152-3001	Engine Fastener (CAT 152-3001) INJECTOR HOLD DOWN BOLT C12/C10	1.02	6	6.12
DO P554005	CAT OIL FILTER NON-ACERT ENGINES	18.58	2	37.16
DO P551311	CAT SPIN-ON FUEL FILTER	15.48	1	15.48
MB 4173703	Gasket, Engine Head Set (CAT 4173703) Gasket Set - Single CYL Head	286.07	1	286.07
DE HTK123	Engine ORing (All) (DE HTK123) INJECTOR O-RING SET	21.25	6	127.50
MB 2244536	Engine Sensor (CAT 2244536) INJECTION ACUATION PRESSURE SENSOR C7/ 3126	226.19	1	226.19
Job Parts Total:				2,221.91
Labor				1694.00
Shop Fee				152.46
EPA Fee				0.00
Job Total				4,068.37



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3309 4th Ave W Hwy 71 and 18 (712) 262-7000 (800) 242-5030	4444 NE 22nd St Delaware Ave (515) 265-1451 (800) 262-5030	1423 E 54th St N Cliff Ave N (605) 336-6737 (800) 274-5030	50200 189th St I-29 Exit 42 (712) 323-9000 (888) 323-5030	7501 E US Hwy 40 I-435 and I-70 (816) 923-7500 (866) 486-5030	495 E 150 South US 35 and Highway 50 (574) 946-6149 (866)-664-5030





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Date: 10/19/2020

Salesperson: Jacob Kersey

Mileage:

arend

rive Axles

### omplaint:

eplace pinion seal

### orrection:

hile truck was in the shop for engine repair  
noticed a pretty good puddle under rear end.  
put seal on rear end bad  
also has a minor minor leak at bottom of where rear end goes into housing  
as told to replace input seal on rear end.  
removed drive shaft  
removed yoke nut  
removed yoke  
nd removed old seal  
rdered new seal and nut. cleaned up housing  
stalled new seal  
removed old speedy sleeve off of yoke  
ot one we had  
was too long  
ave alan trying to get me the correct one  
cleaned up yoke. gear tech installed wear sleeve on yoke. installed new nut onto truck.  
stalled driveshaft in truck. Filled rear end with new 80W90.

### Parts (Job 292565)

Item	Description	Price	Qty	Amount
DT 710008	RA472 SERIES AND J SERIES REAR (DTHH102)	9.01	1	9.01
SS 1696474C1	NUT (S-13453)	11.53	1	11.53
Shipping & Handling - IA	MBO (VH FREIGHT) Iowa Shipping & Handling	9.24	1	9.24
SS 99300	Wear Sleeve (DT 99300) SLEEVE (S-B969)	38.38	1	38.38
AO 900AT129040	80W90 GEAR LUBE (GAL)	16.75	8	134.00
			Job Parts Total:	202.16
			Labor	118.58
			Shop Fee	10.67
			EPA Fee	0.00
			Job Total	331.41



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Salesperson: Jacob Kersey

Mileage:

turbocharger  
engine Air Intake

### Complaint:

URBO HAS A LOT OF PLAY IN IT

### Cause:

TURBO REBUILT

### Correction:

Installed turbo with new gaskets  
made sure fluids were full  
got truck fired up  
let it warm up  
had Tyler come down to confirm truck was running good and not smoking.  
had Harold drive truck.

### Parts (Job 292801)

Item	Description	Price	Qty	Amount
SUBLET	R&R Turbo Charger; 3691444	1,100.00	1	1,100.00
Job Parts Total:				1,100.00
Labor				291.61
Shop Fee				26.24
EPA Fee				0.00
Job Total				1,417.85
Subtotal:				\$ 5817.63
Tax:				\$ 0.00
Total:				\$ 5817.63



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