

# Service Invoice

Invoice Date

10/30/2020

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Jobsite:

Account Number	Invoice Number	Customer PO	Division		
	INV417098		TK		
Document Number	Payment Terms	Service Call Date	Service Writer		
SC433877	CHARGE- 15th Day of Following Month	10/13/2020			
Make	Model	Serial Number	Customer Equipment Number	Equipment Number	Last Meter
AA	3406B	3ZJ31093		EQN133836	1527719

Workscope	Extended Price
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## Troubleshoot - Engine Miss

### Customer complaint:

Complaint of engine miss.

### Resultant damage:

### Cause of failure:

### Repair process comments:

Diagnose engine miss sounded like numbers 5 and 6 injectors. Customer opted for replacing all injectors. Removed intake air tubing and valve covers and jakes. Removed injector cross tubes and injectors. Cleaned and replaced all injectors, installed new o-rings and reinstall jakes. Adjusted overhead with jakes. Reassembled valve covers and air tubing. Started and ran. Engine miss still there checked fuel at pump found number six weak and five was only a little better one through four would squirt a little. Timing advance had some wear and was removed and repaired and reinstalled and had problem pinning injection pump. Injection pump was removed. Had to remove air compressor and fuel lines. Repaired injection pump pin problem and reinstalled and timed and hooked up fuel lines and air compressor. Set engine idle speed to 700 rpm. Test drove Jakes and cruise work.

### Parts

6	1H1023	RING
6	0R4337	NOZZLE AS
6	0R4337CC	NOZZLE AS-CoreChg
-6	0R4337	NOZZLE AS
-6	0R4337CC	NOZZLE AS-CoreChg
6	20R5169	Nozzle As Di
6	20R5169CC	Nozzle As Di-Core Chg
2	1H1023	RING
-1	20R5169WC	Nozzle As Di-CoreChg
-1	20R5169WC	Nozzle As Di-CoreChg
-1	20R5169WC	Nozzle As Di-CoreChg
-1	20R5169WC	Nozzle As Di-CoreChg
-1	20R5169WC	Nozzle As Di-CoreChg
-1	20R5169WC	Nozzle As Di-CoreChg
1	4P3337	RACE
1	4P7690	RACE FLYWGT
1	0093101	RING-SNAP
2	4W2754	SEAL
1	9X7715	SEAL LOBED
4	8C9034	BOLT
1	4P7690	RACE FLYWGT
1	2W0459	GASKET
2	9Y7450	RETAINER
2	1338890	RACE
1	1389507	SEAL
1	1440478	GASKET
1	1440479	GASKET



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1	1440480	GASKET
1	1440481	GASKET
1	1961804	SEAL-O-RING
2	1H9696	RING
1	1J9671	SEAL O RING
1	2D6392	SEAL O RING
1	2M7819	RING
1	2N3350	SEAL-O-RING
1	3170808	SEAL-O-RING
1	3S8022	BEARING
1	4J7533	SEAL O RING
1	4J8997	SEAL O RING
1	4N0260	SEAL
1	4N0432	BEARING
1	4N2953	LOCK-RING
1	4N9019	DOWEL
1	5P5846	SEAL O RING
1	5P6620	SEAL O RING
1	611564	DIAPHRAGM
1	6V3319	SEAL O RING
1	6V5029	SEAL
6	7E9907	SPACER
1	7J0204	SEAL O RING
2	7J0204	SEAL O RING
1	7L3326	BEARING
1	7M7219	BEARING
2	7N8821	RING
2	8E5237	RACE
6	8H9204	WASHER
1	8M8515	SEAL O RING
1	8N2510	SHAFT
1	8N5763	SEAL
1	8N6680	SCREEN A
1	8S7803	RETAINER
2	9N1545	RACE
1	9S8001	PLUG
1	9S8003	PLUG
2	9S8007	PLUG
4	9Y7037	BOLT
6	1313719	SEAL-O-RING
1	1440482	GASKET
1	4N8445	BOLT
1	4M8303	SEAL O RING
6	1137794	BUSHING
1	6I2002	GASKET
4	3J1907	SEAL
1	6L1883	GASKET
1	1293948	GASKET
1	MTK4988280	GASKET
1	1Y0684	HOSE A
1	1N3523	HOSE A

Labor

Flat Rate Labor

Miscellaneous

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scope

Extended Price

1

FRT

11.27

11.27

Total Segment Parts

Total Segment Labor

Total Segment Miscellaneous

Segment Total

6,632.28

## Replace - motor mounts

Customer complaint:

Replace rear motor mounts.

Resultant damage:

Cause of failure:

Repair process comments:

Remove intake air tubing and remove exhaust pipe from turbo. Loosen bolts for motor mounts and remove bolts. Jack up rear of engine and work out the old bushings, the bushings on the driver's side could not be reached without taking off air dryer and king cruise module in order to get to the bolts and bushings. Had to remove one starter bolt for more access as well. Also had to heat up one nut to remove bolt from drivers side. After removing old bushings, cleaned away dirt and debris to install new bushings. Used engine to install new bushings. Jacked up and started bolts and let back down after getting started. Installed nuts and washers and tighten down. Reinstalled air dryer and king cruise module, and exhaust pipe and intake air tubing and starter bolt.

### Parts

4 FLEPL1070

8 5P8247

4 3E9861

4 1D4586

KW / PETE MOTOR MO

WASHER

LOCKNUT

CAP SCREW

### Labor

Flat Rate Labor



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Extended Price

Total Segment Parts  
Total Segment Labor  
Total Segment Miscellaneous

Segment Total

968.60

Total Invoice Parts  
Total Invoice Labor  
Total Invoice Miscellaneous  
Total Tax



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Account Number	Invoice Number	Invoice Date
	INV417098	10/30/2020

Please Pay This Amount:

\$7,686.18

Claims for shortages or damages must be made within 5 days of receipt of invoice.

Approved returns subject to restock/handling charges.

No service adjustment unless is notified, in writing, within 30 days.

For billing inquiries please call:



**DETAILS**

[REDACTED]

Date:	10/30/2020
Transaction Type:	Sale
Invoice #:	INV417098
Dealer Cust. #:	[REDACTED]
Company Name:	[REDACTED]
Account #:	[REDACTED]
Authorization #:	[REDACTED]
RequestId:	[REDACTED]

**TOTALS****Grand Total****7,243.00 USD**

Remit To:



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Account Number		Invoice Number		Customer PO		Division	
!		INV554205				TK	
Document Number		Payment Terms		Service Call Date		Service Writer	
SC537145		CHARGE- 15th Day of Following Month		04/13/2022			
Make	Model	Serial Number	Customer Equipment Number		Equipment Number		Last Meter
AA	3406B	3ZJ31093			EQN133836		1,545,757.00

Workscope	Extended Price
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## Overhaul - Engine

**Customer complaint:**  
out of frame overhaul.

**Resultant damage:**

**Cause of failure:**  
out of frame overhaul.

### Repair process comments:

unhooked all wiring, bolts, radiator, shift tower and drive line then removed engine and trans together. pulled apart radiator to send in and record. tested charge air cooler found ok. removed trans from engine. found clutch needs replaced and clutch arm bushings are damaged and needs new flywheel. placed engine on blocks and removed all parts down to bare block. cleaned up block real good placed on pallet and wrapped and tied down to pallet to get sent off to shave top of block. while block was gone installed new input shaft kit for trans with all bushings and bearings for new shaft. new clutch was ordered. when block was returned it was cleaned up again and counter bored shaved block. cut all bores to spec. then cleaned up block for shavings from counter bore. cleaned up all oil galleys and blew out with shop air. Started cleaning up all parts going back on engine that were very oily and dirty. started installing all parts with some new bolts, washers, hoses and fittings that was broke coming apart. installed new cylinder packs with shims for counter bore cleaned up top of block and installed new shim, spacer, head gasket and o-rings installed new head torqued to spec, then reassembled engine everything installed was torqued to spec. and cleaned. installed new clutch on engine and went to install trans and was told to stop. owner wanted to replace the trans with reman trans. had to wait for trans to arrive. when trans arrived found the trans was the wrong one. had to send it back and they had to make one when that trans arrived it was installed on engine and engine was installed in truck with new mounts, bolts and washers. then tightened up all mount bolts. when radiator arrived it was reassembled with a lot of new bolts and installed in truck. had to clean up batteries all connections and cables running to starter were very oil soaked. installed new snake skin on cables and hooked up to starter. hooked up all wiring and hoses to engine went to start engine and found batteries very low placed battery charger on batteries to charge. couple hours and still would not start turning over very slow. found starter was worn out and batteries tested no good. installed new batteries. removed starter and installed new starter. fired up engine and test ran boxed up all cores and parts that was ordered to send back. steamed off engine and flushed cooling system several time to clear up then filled cooling system with e-l-c coolant. painted engine and truck was road tested. final look over was done for all wiring, hoses and tied up all that needed tied up. when truck came back from road test found there is an issue with the trans and that was addressed and repaired had a lot of cleaning to do at bay and all damaged parts, hoses, fittings, bolts, tables and part trees. final road test was done and no issues found.

### Parts

1.00	10R0482	PUMP GP WTR
1.00	10R0482CC	PUMP GP WTR-CoreChg
6.00	20R5169	Nozzle As Di
6.00	20R5169CC	Nozzle As Di-Core Chg
1.00	0R5601	CORE A REM
1.00	1R0716	FILTER A
1.00	1R0749	FILTER AS FU
1.00	2477133	REGULATOR-TE
12.00	2N2766	LOCK NUT
13.00	2S3770	SPACER
23.00	4S6137	STUD
12.00	5F4899	CAP SCREW
25.00	5M2894	WASHER
1.00	0R5601CC	CORE A REM-CoreChg
6.00	3285573	BEARING-ROD
7.00	3178766	BEARING - MA
2.00	2531752	PLATE-THRUST

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1.00	1663650	TUBE AS-OIL
6.00	1118606	BOLT OIL
1.00	1002937	KIT GASKET
20.00	1241855	BOLT 12PT
1.00	2341874	KIT-GASKET-F
1.00	0R9449	PUMP GP OIL
1.00	0R9449CC	PUMP GP OIL-CoreChg
1.00	0R3719	CYL HEAD G
1.00	0R3719CC	CYL HEAD G-CoreChg
6.00	10R3787	CYL PACK
5.00	10R3787CC	CYL PACK-CoreChg
1.00	1104899	GASKET KIT
1.00	5534060	Kit-Gasket (
18.00	9Y3368	INSERT LR
30.00	2760747	CAP PLUG
20.00	9U7071	CAP PLUG
4.00	9U7087	CAP PLUG
4.00	2760754	CAP/PLUG
4.00	9U7081	CAP PLUG
4.00	9U7082	CAP PLUG
4.00	9U7080	CAP PLUG
2.00	6078033	Shop Towels
1.00	3079919	ABSORBENT PA
14.00	1U7427	COVER ENGINE
1.00	6V4186	PIN
1.00	MTKKT59-62003-HT	ENGINE MOUNT KIT W/HARDWARE
1.00	FLEMM75-62001	MOTOR MOUNT KIT PETE
1.00	LOC1865406	SOLVO RUST
1.00	1653934	BOLT-HEX HEA
1.00	2147568	SEAL-O RING
1.00	8T2161	ELBOW
1.00	1293948	GASKET
6.00	1090077	SEAL O RING
1.00	4N0699	GASKET
2.00	1007399	PLUG
2.00	2500466	SEAL-O-RING
9.00	1A1460	CAPSCREW
5.00	1653931	BOLT-HEX HEA
14.00	1653929	BOLT-HEX HEA
5.00	3G2292	BOLT
4.00	1261756	LOCKING BOLT
24.00	3E6772	SEAL
2.00	1135304	SEAL
2.00	2S2251	SEAL-O-RING
1.00	1N3523	HOSE A
2.00	4J8997	SEAL O RING
2.00	1S4810	GASKET
12.00	3056843	SPRING-GUIDE
1.00	7E6508	CAP A
6.00	7W4990	TUBE ASSY-JE
1.00	6I2981	PLATE
1.00	1Y0413	TEE
1.00	1425868	SEAL GP-CSHF
2.00	4N4935	HOSE A
1.00	4P2446	HOSE A
9.00	4N0685	BEARING
2.00	4N6658	BEARING

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10.00	1384529	BRISTLE DISC
8.00	5P4255	BOLT
1.00	MSC105	LUBRIPLATE
1.00	1555619	GASKET-FLYWH
1.00	1317123	BEARING
1.00	8N8258	BEARING
9.00	2M0849	WASHER
4.00	1653932	BOLT-HEX HEA
8.00	3B4507	LOCKWASHER
2.00	0L1352	CAP SCREW
1.00	1U5519	PAD-DISC
1.00	1425867	SEAL GP-CSHF
1.00	8S2332	BOLT
2.00	3B4510	LOCKWASHER
1.00	4P2383	ADAPTER
1.00	1185068	SEAL O RING
11.00	0309621	SCREW
3.00	1901669	HOSE A
2.00	FLEBP103-2	FM COUPLING 1/8
2.00	3B8822	ELBOW
2.00	3B8489	FITTING
2.00	9S8007	PLUG
2.00	7J0204	SEAL O RING
1.00	1J9671	SEAL O RING
1.00	9S8003	PLUG
1.00	1H9696	RING
1.00	9S8001	PLUG
1.00	4J7533	SEAL O RING
1.00	3J7354	SEAL O RING
1.00	2N3350	SEAL-O-RING
1.00	5P5846	SEAL O RING
1.00	6V3319	SEAL O RING
1.00	0R7202	TURBO GP
1.00	0R7202CC	TURBO GP-CoreChg
2.00	8F6419	CAP SCREW
2.00	2H3750	BOLT
4.00	7C0047	STUD
1.00	1460763	CONNECTOR-SP
3.00	MTKCB1120-3	AIR TO AIR BUSHING
12.00	20R1828	LIFTER AS V
12.00	20R1828CC	LIFTER AS V-CoreChg
1.00	0R3780	ROD A
1.00	0R3780CC	ROD A-CoreChg
1.00	1445902	RING
1.00	1609874	GASKET KIT
1.00	2380294	RING-PISTON-
1.00	1343761	RING
1.00	9Y4104	HOSE
2.00	8T4983	CLAMP
1.00	4N1156	GASKET
1.00	4N1650	DOWEL
6.00	1011816	BRIDGE AS
4.00	0067403	RETAINER
4.00	2N7228	WASHER
5.00	2N7229	SPRING
6.00	1085603	SCREW
12.00	9L7712	NUT

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2.00	0L1022	PLUG
2.00	4N0839	SHAFT A
6.00	2N5842	SCREW
1.00	6I3554	PIN-DOWEL
6.00	4N5614	ARM A
6.00	20R6263	Arm As-V Roc
6.00	20R6263CC	20R6263-CoreChg
6.00	7C0048	BRIDGE
2.00	7C0031	SEAL-O-RING
-6.00	10R3787WC	CYL PACK-CoreChg
-1.00	0R3719WC	CYL HEAD G-CoreChg
1.00	1061792	STUD TAPER
1.00	MTK4988280	GASKET
4.00	5P5678	M SEAL STK
18.00	9L8925	BOLT
18.00	5P4116	WASHER
1.00	2N8630	GASKET
1.00	8M0755	ADAPTER
1.00	9Y5281	HOSE
2.00	9M2904	CLAMP
13.00	MTKFLF/FRE5515-300A	IN HOSE-SIL 3"
8.00	1440367	CLAMP
12.00	MTKFLF/FRE5515-250A	IN HOSE-SIL 2.5"
4.00	8T4984	CLAMP
3.00	1653928	BOLT-HEX HEA
40.00	2P3205	BOLT
2.00	FLE35-P-15-1	8 BOLT GASKET .010
2.00	MTK13MK5709A	8 BOLT .020 GASKET
1.00	MTK13T64246	SHIFT COVER GASKET PTO
10.00	WAYLCN1000	1"ID LOOM-FT
25.00	6K0806	TIE
25.00	7K1181	TIE
113.00	5417139	Hose Bk
2.00	0016285	COUPLING
2.00	MH1	Make Hose Fee - Low/Med
4.00	2N2765	BOLT
2.00	FLE9206H	3/8 CLAMP SILICONE
2.00	FLE9216H	CLAMPS MIN 13/16 M
2.00	MTKGT3230-3/8	FT 3/8" HEATER HOSE SILICONE
3.00	MTKGT3230-1	FT 1" HEATER HOSE SILICONE
1.00	FLE6.5-70-18X	U-JOINT STRAP KIT
1.00	2201206	HOSE AS
3.00	MTK85003	5/32 X 1/8 90D ELB
1.00	1S6595	GASKET
2.00	NAP6844	AIR FILTER
47.00	CTO5153957	CAT DEO ULS 15W-40 CK4 BULK
1.00	3237347	SEAL-O-RING
1.00	0617539	SEAL
1.00	4355142	FILTER-COOLA
2.00	MTK1126	RADIATOR BUSHING
2.00	5H7704	SEAL
2.00	FLETLC500S	5 STAINLESS LAP JO
1.00	1265027	CAP AS
-1.00	DONP614223	AIR PANEL
4.00	1754390	BATTERY
1.00	MTK8200308	STARTER DELCO REMY
1.00	4C8420	INSERT

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2.00	MTKP062STPA	RETAINING RING
14.00	2388648	CAT ELC
3.00	5900195	Paint-Yellow
-1.00	0R3780WC	ROD A-CoreChg
-1.00	0R5601WC	CORE A REM-CoreChg
-1.00	0R7202WC	TURBO GP-CoreChg
-1.00	0R9449WC	PUMP GP OIL-CoreChg
-1.00	10R0482WC	PUMP GP WTR-CoreChg
-6.00	20R5169WC	Nozzle As Di-CoreChg
-12.00	20R1828WC	LIFTER AS V-CoreChg
-6.00	20R6263WC	20R6263-CoreChg
2.00	4B9365	BOLT
2.00	0S1615	CAP SCREW
1.00	0R3008	PUMP G
1.00	0R3008CC	PUMP G-CoreChg
1.00	2147566	SEAL-O-RING
-1.00	0R3008WC	PUMP G-CoreChg

## Labor

Flat Rate Labor

## Miscellaneous

1.00	OSL	RECORE RADIATOR 4 ROW
		2 YR WARRANTY
1.00	OSL	MACHINE BLOCK AND POSLISH CRANK

## Miscellaneous

1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
1.00	FRT
-1.00	PRT_DISC

Total Segment Parts

Total Segment Labor

Total Segment Miscellaneous

Segment Total

45,898.14

## Replace - Engine & Flywheel Clutch

### Parts

1.00	10R2356	FLYWHEEL AS
1.00	10R2356CC	FLYWHEEL AS-CoreChg
1.00	MTKFUL/K2468	CLUTCH INSTAL KIT
1.00	MTKSP/108391-74AM	CLUTCH 1650 FT LBS 15.5 IN.
1.00	MTK06-00530	CLUTCH SHAFT
1.00	FLES19133	9.625 PB XSHAFT

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3.00	MTK85003	5/32 X 1/8 90D ELB
4.00	MTK1126	RADIATOR BUSHING
1.00	MTKRTLO14613BWEL	TRANSMISSION
1.00	MTKRTLO14613BWELCC	TRANSMISSION-CoreChg
1.00	FLE4308226	GASKET, CLUTCH HOUSING
-1.00	10R2356WC	FLYWHEEL AS-CoreChg
1.00	MTK06-00984	END-TIE ROD, MALE THREAD
1.00	MTKJ21270-14	END-ELASTOMERIC ROD
-1.00	MTKRTLO14613BWELWC	TRANSMISSION-WornCor

**Miscellaneous**

1.00	OSP	OIL STUD FROM PAC BRAKE
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**Miscellaneous**

-1.00	PRT_DISC
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Total Segment Parts  
Total Segment Labor  
Total Segment Miscellaneous

**Segment Total** 5,524.56

Total Invoice Parts  
Total Invoice Labor  
Total Invoice Miscellaneous  
Total Tax



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Account Number	Invoice Number	Invoice Date
	INV554205	12/20/2022

Please Pay This Amount:

**\$54,379.40**

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Account Number		Invoice Number		Customer PO		Division	
		INV554212				TK	
Document Number		Payment Terms		Service Call Date		Service Writer	
SC537145				04/13/2022			
Make	Model	Serial Number		Customer Equipment Number		Equipment Number	Last Meter
AA	3406B	3ZJ31093				EQN133836	1,545,757.00

Workscope	Extended Price
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## Warranty - Transmission

### Labor

Flat Rate Labor

-----  
Total Segment Parts  
Total Segment Labor  
Total Segment Miscellaneous

Segment Total 1,106.00  
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-----  
Total Invoice Parts  
Total Invoice Labor  
Total Invoice Miscellaneous  
Total Tax  
-----

----- ✂  
Please detach and include this portion with your payment.

Account Number	Invoice Number	Invoice Date
	INV554212	12/20/2022

Please Pay This Amount:

\$1,106.00