

Toowoomba PO Box 41 Wyalla Plaza Toowoomba QLD 4350

Tel: 07 4633 7627 Fax: 07 4633 7627

COPY

INVOICE NUMBER

INVOICE DATE 28/10/22

PAGE

9557036

1

Invoice To

Account Number 2170885 **KEITH HADDAD & SONS PTY LTD KEITH HADDAD & SONS PTY LTD PO BOX 802**

MOREE NSW 2400 Customer

KEITH HADDAD & SONS PTY LTD KEITH HADDAD & SONS PTY LTD

PO BOX 802 MOREE NSW 2400

Engine Model:	SIGNATURE/ISX/QSX	Eng No:	79924240	Equip Make:	KENWORTH
FleetNo:		Reg No:	CH70UC	Cust Ord NO:	CH70UC
Date in Service:	26/10/16	KLMS:	1042077	HRS:	19760
Repair Date:	04/10/22	Chassis NO:	457430	Currency:	AUD
C.O.No.	6619570	Work ordNo.	2778340	Facility	137

Complaint:

Engine replacement

AdBlue flush, renew filters Uprate 550 hp @ 1850 ft lb

Cause:

Engine replacement requested by customer

Correction:

Guidanz SO Number: 437419

Hrs/Speedo Klms: 19,760 hrs / 1,042,077 kms

ECM Kms: 1,050,855 Fuel Burn: 678490 lfb

OLD ESN: 79924240 NEW ESN: 80442434

Download ECM

Drain coolant, oil and remove ducting

Remove bonnet and remove radiator

Start to disassemble engine removing external components (turbo, exhaust mainifold, thermostat housing, intake manifold, IFSM and ECM)

Remove rocker cover, front tin cover, timing gears, rocker assembly and camshaft

Remove cylinder head, sump, oil pump, pick up and stiffener plate, piston cooling nozzles, pistons and liners Clean all removed components, inspect all parts and carry

out parts list

Coolant measured out of spec

Air filter dusty

Belts cracked

Front and rear rocker shaft detents elongated

Exhaust manifold centre section cracked

Cooling thermostat seal split

Cyl head bolts x 10 pitted

Oil pump pickup bore fretted and internal shaft fretted

666



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PAGE

2

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Description Operation Unit price Qty Extension

> Radiator stay rubbers perished Radiator mounts perished Vent line brittle/stiff Heater hoses perished Top & bottom radiator hose split Cab mounts cracked Front & rear engine mounts worn Cam position sensor cracked Horton fan bearing worn/noisy Alternator bearing noisy Dump pipe flange cracked Dump pipe rubbers perished Oil pressure sensor passing oil Fuel pump gear idler and shaft broken Block surfaces cracked Minor scoring on crankshaft Vibration damper dented Front gear housing fretted

Discuss findings with customer who elected to replace engine with new engine Customer authorised sourcing OEM parts from Brown & Hurley Toowoomba

Remove clutch and gearbox from engine Remove wiring harness Remove engine from chassis and place on stand Spec new engine (remove required parts from old to new engine) Turn oil pan to suit new engine and fit new pick up Renew engine mounts Fit old starter to new engine Fit new engine into chassis Refit clutch and gearbox Rebuild horton fan and bench test for oil leaks - all ok Plumb and adjust intake side of engine Install OEM oil pressure sensor Refit power steering pump with new gasket Refit D2 governor valve with new gasket Plumb exhaust side of engine Fit new drive belts Refit serviced radiator



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PAGE

3

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Description Operation Unit price Qty Extension

Refit a/c compressor and condenser Make up and fit new heater, radiator and vent lines Zip tie engine wiring and hoses Install new air filter Refit belly bar and fuel tank brace Replace broken coolant quick drain fitting Replace worn heater taps Install new alternator Fill system with new coolant and oil Carry out rerate to 550 hp @ 1850 ft lb Start engine to find active fault code for dosing unit loss of prime Renew doser injector, inlet fitting and AdBlue filters Carry out flush procedure to receive 100 mls in 6 minutes Carry out run in procedure Adjust clutch Wash engine and truck Return vehicle to service ______

Capped price engine R&R: \$7900.00

Engine: \$64,781.00

Labour strip & inspect old engine: Labour rekit horton fan: \$504.00 Labour flush ad blue system: \$336.00 Horton fan rebuild kit: \$1069.08

Air filter: \$87.73

OEM coolant quick drain fitting: \$104.11

AdBlue filters: \$89.82 Doser injector: \$138.28

Doser injector connector: \$51.28 Subcontract repair exhaust: \$118.75

Uprate fee: \$1510.00 Consumables: \$100.00

Credit Cummins Used offer for old engine: \$4000.00-

TOTAL PRICE: \$74,806.05 + GST



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PAGE 4

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Description	Operation	Unit price	Qty	Extension
Material				
3824541	DISK SURFACE CONDITIONER		3	
3164067	SEALANT SILICONE ADHESIV		1	
3391271	LUBRIPLATE 105 GREASE 10		1	
3823258	PAD CLEANING SCOTCHBRITE		2	
52368.02	ENGINE, ISXE5 500 / 1850		1	
78250GL	SILICONE HOSE 915MM I	ıΕ	1	
4988280	GASKET HYDRAULIC PUMP		2	
6306-2RS2/C5GJB			1	
80271-CM	DAYCO HEATER HOSE		400	
80254GL-CM	HOSE DAYCO SILICONE		150	
185848	GASKET AIR COMPRESSOR		1	
F35008OB	KIT OUTBACK UPGRADE HTS	S	1	
2866337	GASKET AFM DEVICE		2	
179904	CLAMP HOSE		4	
TB200SL	SPRING LOADED CLAMP		8 2	
92016	DAYCO AUTOMOTIVE CLAMP		2	
6PK1590	DAYCO BLUE LABEL BELT		1	
DCT110H1RW	TIE-CABLE BRAKE HOSE 19.		10	
PGXLVITAL-20L	PGXL VITAL ADVANCED COOL	ıΑ	3	
AF1968M	AIR FILTER		1	
1324.01	PREMIUM BLUE 8600 OIL (W	1/	50	
715-8016-006	ELBOW, CONNECTOR, 1/4"-3MM	Ī	1	
5307918	6 HOLE INJECTOR DOSER		1	
5264404	CONNECTOR, QCK DISCONNEC	CT .	1	
HHW0116	FILTER, INTANK ADBLUE		1	
AS2474	AIR OIL SEPARATOR		1	
ISXDUP4	SECOND HAND SIG/ISX CORE		1-	
Subcontract				
5411359	Vent line & fittings		1	
5411669	FITTING FOR OIL SENDER		1	
5411959	12PK2215 belt		i	
5413279	Exhaust repair		1	
			_	
Miscellaneous				
	Electronic software	•	1	
	Rerate to 550 @1850 ft 1	d.	1	
	Environmental Levy		1	



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AGE

PAGE

5

9557036

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Description	Operation	Unit price	Qty	Extension
		SUB-TOTAL		74806.05
		G.S.T INVOICE TOTAL		7480.61 82286.66