

Cummins South Pacific Pty. Ltd.

ABN NO. 42006332949

WORKSHOP TAX INVOICE

Toowoomba
PO Box 41 Wyalla Plaza
Toowoomba QLD 4350
Tel: 07 4633 7627
Fax: 07 4633 7627

COPY

INVOICE NUMBER

9148176

INVOICE DATE

05/11/21

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Invoice To

Account Number 137SERV
CASH SALES SERVICE - TOOWOOMBA
TOOWOOMBA
SERVICE CASH SALES

Customer

TULAG PTY LTD
1244 BUNYA HWY
DALBY
QLD 4405

Engine Model:	SIGNATURE/ISX/QSX	Eng No:	79873668	Equip Make:	KENWORTH
FleetNo:		Reg No:	304TWP	Cust Ord NO:	
Date in Service:	12/04/16	KLMS:	1243750	HRS:	21517
Repair Date:	19/10/21	Chassis NO:	452561	Currency:	AUD
C.O.No.	6553707	Work ordNo.	2711746	Facility:	137

Complaint:

Pressurising cooling system
Replace oil pump

Cause:

Blown head gasket on cylinder #1
Cracked counterbores

Correction:

Guidanz SO Number: 236800

Hrs/Klms: Dash hrs 21517 / Speedo 1,243,750 kms

ECM klms: 950872

Engine run time: 16557 hrs

Fuel Burn: 614362 lfb

Download ECM

Perform combustion gas leak test to find colour of test fluid changed from blue to green, indicating combustion gases are entering cooling system

Wash engine

Drain coolant.

Remove bonnet and radiator for access

Disconnect and remove all components to gain access to cylinder head

Remove cylinder head. Found gasket blown @ #1

Clean block and measure liner heights. Cyl #1 at 10 and 7
thou

Remove piston and liners. Clean block and cut #1 to 32 thou,
cylinder block not reuseable

Remove gearbox from engine. Strip all hoses and wiring from engine. Remove engine mounts and remove block and place on stand

Strip all parts, including crank, from the block

Carrry out teardown inspection:

" 2 x air filters dusty

" 5/8th heater hose worn and also requires 6 clamps to suit

" 1" draw down hose worn and also requires 4 clamps to suit

" Front valve rocker shaft has elongated detents

" 8 x Cylinder head short bolts pitted

" Fuel pump actuator casing fallen off

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" OEM - 2 x clutch linkage rose joints worn				
" OEM - Clutch cross shaft bushes worn				
" OEM - 4 x radiator stay bushes worn				

Discuss findings with customer who elected to proceed with rebuild and repair/replace items as noted.
Clean head and measure valve recession
Set new block on engine stand. Clean crankshaft and fit to new block with new main bearings
Tension main caps. Check crankshaft end float and record 0.009 thou
Install liners and measure heights
Install new pistons and tension. Install piston cooling nozzles
Fit replacement oil pump as requested by customer and check backlash
Refit stiffener plate and oil pick up
Refit fuel pump and replace actuator
Refit cylinder head with new gaskets and seals as required
Install cams with timing wedges. Install new upper and lower idler gear shafts and front rocker shaft
Carry out base timing
Remove engine from roll over stand and place on engine stand
Clean and fit oil cooler. Replace filter relief valve
Tension oil cooler
Remove cross shafts and bushes, fit new bushes and reem to size. Fit cross shaft and fork and install new clutch assembly. Refit machined flywheel
Replace broken heater tap
R&R heater and draw down hoses and clamps
Refit engine into chassis
Refit and plumb up radiator
Fill engine with new oil and saved coolant
Refit air cleaners
Start and run up engine
Note 3 x blown power steering hoses when moving truck to wash bay. Arrange subcontractor to R&R hoses.
*Subcontractor noted that other hoses have rub marks
Refit bonnet
Wash engine
Carry out test drive and return vehicle to service

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Capped price engine R&R: \$5810.00
Capped price out of chassis rebuild: \$16700.00
Credits from capped pricing: (\$632.00)
Additional labour: \$608.00
Recon lube pump: \$1327.00
Air filters: \$117.84
Rocker lever shaft: \$532.09
Short head bolts: \$556.32
Recon fuel pump actuator: \$462.19
Cover plate gasket: \$56.17
Subcontracts:
 Machine flywheel \$156.25
 Heater tap & exhaust clamp \$24.12
 R&R power steering hoses \$738.17
Consumables: \$50.00

TOTAL PRICE: \$26506.15 + GST

*Cummins contribution: cylinder block kit; lower engine gasket kit; upper and lower idler gear shafts

Banking Details
Cummins South Pacific Pty Ltd
Australia and New Zealand Banking Group Limited (ANZ)
Level 4, 100 Queen Street, Melbourne VIC 3000
Account No: 836551902 BSB:013 479
Swift Code: ANZBAU3M

Include Account and Invoice Numbers in Payment Reference



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Description	Operation	Unit price	Qty	Extension
Material				
5633631	KIT, MAIN BEARING		1	
4965731	O-RING		1	
4307411NX	RECON ACTUATOR		1	
3104119	GASKET COVER PLATE		1	
5693737	KIT, OVERHAUL		1	
5599284RX	RECON LUBE PUMP ISX		1	
12PK2370	DAYCO BLUE LABEL BELT		1	
185848	GASKET AIR COMPRESSOR		1	
6PK1590	DAYCO BLUE LABEL BELT		1	
3824541	DISK SURFACE CONDITIONER		2	
92208	DAYCO AUTOMOTIVE CLAMP		6	
92210	DAYCO AUTOMOTIVE CLAMP		4	
2866337	GASKET AFM DEVICE		3	
4988280	GASKET HYDRAULIC PUMP		1	
3164067	SEALANT SILICONE ADHESIVE		1	
3678506	SCREW HEXAGON FLANGE HEAD		8	
FS19764	PLUS SIZE ELEMEX		1	
AF351KM	AIRFILT ONENGINE RGD OUTE		2	
WF2127	ESI WATER FILTER BLANK		1	
2882570	SHAFT ROCKER LEVER		1	
80271-CM	DAYCO HEATER HOSE		300	
80254GL-CM	HOSE DAYCO SILICONE		150	
3391271	LUBRIPLATE 105 GREASE 100		1	
3823258	PAD CLEANING SCOTCHBRITE		2	
1324.01	PREMIUM BLUE 8600 OIL (W/		50	
3163075	PAINT "300 APEX RED" 12.		3	
6306-2RS2/C5GJB	BEARING, SPIGOT		1	
5406110	KIT, MAIN BEARING		1-	
Subcontract				
5350007	MACHINE FLYWHEEL		1	
5350212	HEATER TAP		1	
5350190	EXHAUST CLAMP		1	
5350476	R leak power steering hos		1	

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Description	Operation	Unit price	Qty	Extension
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SUB-TOTAL			26506.15	
G.S.T			2650.62	
INVOICE TOTAL			29156.77	