



February 18, 2009

BMW 523-1
Rebuild Invoice

Quantity	Units	Item	Price	
			Each	Extended
Short Block Components				
1	Each	Alternator Pulley	\$357.89	\$357.89
1	Each	Bearing 1st Intermediate Gear Shaft Front	\$21.71	\$21.71
1	Each	Bearing 1st Intermediate Gear Shaft Rear	\$13.27	\$13.27
1	Each	Bearing 2nd Intermediate Gear	\$13.41	\$13.41
4	Each	Connecting Rod	\$345.63	\$1,382.50
8	Each	Connecting Rod Bearing Shells	\$129.38	\$1,035.00
6	Each	Core Plug 36.5 mm	\$2.18	\$13.08
1	Each	Crankshaft Nose Cover	\$124.89	\$124.89
1	Each	Crankshaft Pilot Bearing Adaptor	\$81.00	\$81.00
2	Each	Crankshaft Pilot Bearings	\$58.43	\$116.86
1	Each	Crankshaft Seal Front	\$80.06	\$80.06
1	Each	Crankshaft Seal Rear	\$107.33	\$107.33
4	Each	Cylinder Liners	\$94.43	\$377.73
1	Each	Intermediate Bearing Plate / Lagerplatte	\$2,429.66	\$2,429.66
8	Each	Main Bearing Shells Standard	\$17.98	\$143.86
2	Each	Main Bearing Thrust Standard	\$39.04	\$78.08
1	Each	Piston Expedite Fee	\$374.28	\$374.28
4	Each	Piston Ring Compression Second	\$23.14	\$92.56
4	Each	Piston Ring Compression Top	\$26.16	\$104.65
4	Each	Piston Ring Oil Control Expander	\$3.60	\$14.40
8	Each	Piston Ring Oil Control Rails	\$3.15	\$25.20
4	Each	Pistons	\$209.59	\$838.38
1	Each	Plug Oil Port Front Cover M15 X 1.5	\$37.22	\$37.22
1	Each	Seal Alternator Gear Shaft	\$8.64	\$8.64
1	Each	Timing Gear Cover Aluminum	\$2,251.13	\$2,251.13
1	Each	Water Pump Driven Pulley	\$441.79	\$441.79
1	Each	Water Pump Insert	\$128.14	\$128.14
8	Each	Wrist Pin Locks	\$2.06	\$16.48
4	Each	Wrist Pins	\$23.16	\$92.62
Cylinder Head Components				
1	Each	Bearing 3rd Intermediate Gear	\$18.20	\$18.20
2	Each	Cam Cover Gasket	\$25.60	\$51.19
1	Each	Gasket Head	\$173.53	\$173.53
1	Each	Ignition Rotor Adaptor Pin M6 X 24 / M6 X 24 ZYL STI 3	\$0.28	\$0.28
1	Each	Seal Distributor Adaptor Plate	\$8.51	\$8.51
16	Each	Tappet Pistons	\$72.00	\$1,151.93
16	Each	Tappet Shims	\$8.00	\$128.00
8	Each	Valve Exhaust	\$121.84	\$974.70
4	Each	Valve Guide	\$27.57	\$110.26
8	Each	Valve Inlet	\$129.50	\$1,036.00



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16	Pair	Valve Keepers	\$11.55	\$184.80
8	Each	Valve Seat Exhaust	\$40.05	\$320.43
8	Each	Valve Seat Inlet	\$40.05	\$320.43
16	Each	Valve Spring Platforms (L)	\$8.00	\$128.00
8	Each	Valve Spring Platforms (M)	\$8.00	\$64.00
8	Each	Valve Spring Platforms (K)	\$8.00	\$64.00
16	Each	Valve Spring Retainers	\$33.60	\$537.60
16	Each	Valve Springs	\$40.96	\$655.36
16	Each	Valve Stem Seals	\$5.46	\$87.40
Fuel System/Pumps/Ancillaries				
1	Each	Banjo Bolt 12mm X 1.5 Fuel Inlet Fitting	\$47.22	\$47.22
48	Each	Bearing Slide Thottle	\$8.13	\$390.14
1	Each	Belt Water Pump Drive	\$22.30	\$22.30
1	Each	Bosch Coil	\$92.79	\$92.79
2	Each	Cap Aluminum -16	\$10.48	\$20.96
3	Each	Cap Aluminum -3	\$2.10	\$6.30
2	Each	Cap Aluminum -6	\$2.40	\$4.80
2	Each	Cap Aluminum -6	\$2.40	\$4.80
33	Inches	Coil Wire 7mm	\$2.94	\$97.02
1.25	Feet	Fire Sleeve -12	\$13.07	\$16.34
1	Each	Fitting Adaptor (-8) Male to 18.0 mm X 1.5	\$7.49	\$7.49
1	Each	Fitting Fuel Outlet	\$107.52	\$107.52
4	Each	Fuel Delivery Tappets	\$106.52	\$426.06
1	Each	Fuel Filter 10 micron Element	\$177.76	\$177.76
1	Each	Fuel Fitting Inlet	\$107.52	\$107.52
1	Each	Fuel Injection Pump Oil Line Kit	\$206.13	\$206.13
1	Each	Fuel Injection Pump Rod End M5 L/H	\$18.90	\$18.90
1	Each	Fuel Injection Pump Rod End M5 R/H	\$18.90	\$18.90
1	Each	Fuel Injection Pump Support Bracket	\$122.62	\$122.62
0	Each	Fuel Injecton Pump Actuator Rod	\$90.00	\$0.00
1	Each	Fuel Line Kit	\$338.35	\$338.35
1	Each	Hardware Kit	\$346.33	\$346.33
1	Foot	Hose -12 Push-On Oil Scavenge Tubes	\$10.53	\$10.53
1.42	Feet	Hose -12 Steel Braided Oil Return Line	\$11.44	\$16.24
1	Foot	Hose 5.0mm Braided Hose Front Cover to Cylinder Head	\$3.79	\$3.79
2	Each	Hose Clamp for 5.0 mm Hose	\$3.28	\$6.56
4	Each	Hose Clamp Scavenge Hose	\$1.30	\$5.20
1	Each	Hose Clamp Water Hose	\$1.30	\$1.30
2	Each	Hose End -12 90 Deg Oil Return Line	\$42.08	\$84.16
1	Foot	Hose Silicon Water Transfer	\$20.25	\$20.25
1	Set	Ignifion Control Box Used	\$1,875.00	\$1,875.00
1	Each	Ignifion Trigger Connector	\$3.00	\$3.00
1	Each	Ignifion Trigger Connector	\$4.24	\$4.24
3	Each	Ignifion Trigger Connector Pin	\$1.86	\$5.58
3	Each	Ignifion Trigger Connector Socket	\$1.86	\$5.58



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1	Each	Ignition Trigger Connector Wedge Lock (Plug)	\$0.58	\$0.58
1	Each	Ignition Trigger Connector Wedge Lock (Socket)	\$0.58	\$0.58
0	Each	Ignition Wire Nut Kit	\$21.60	\$0.00
1	Set	Ignition Wires	\$99.79	\$99.79
4	Each	Inlet Trumpets	\$412.53	\$1,650.11
1	Each	Installation Kit	\$35.54	\$35.54
1	Each	Nut Fuel Injection Pump Actuator Rod M5 R/H	\$0.04	\$0.04
1	Each	Oil Filter	\$15.65	\$15.65
1	Each	Oil Scavenge Pump Gear 20.0 mm slip fit w/woodfruff key	\$321.06	\$321.06
1	Each	Oil Scavenge Pump Gear 20.0 mm slip fit wo/woodfruff key	\$245.03	\$245.03
1	Each	O-Ring Kit	32.16	32.16
1	Each	Plug BSP	\$3.78	\$3.78
1	Each	PRV	\$67.50	\$67.50
1	Each	Clutch Quarter Master 7-1/4	\$1,166.88	\$1,166.88
1	Each	Resistor Coil Wire	\$13.31	\$13.31
4	Each	Spark Plugs	\$41.85	\$167.40
1	Each	Throttle Sliding Plate	\$526.60	\$526.60
1	Each	Trigger Plate	\$60.75	\$60.75
4	Each	Washer Spark Plug	\$1.26	\$5.04
1	Each	Water Pump Driven Pulley	\$464.71	\$464.71
1	Each	Water Pump Impellor	\$208.00	\$208.00
1	Each	Water Pump Rebuild kit	\$144.01	\$144.01
0	Each	Woodruff Keys Oil Pump	\$4.00	\$0.00
-1	Each	Credit for Currency Conversion Adjustment for Cylinder Head	\$379.50	-\$379.50
		Total Cost of Parts		\$26,666.61
Labor & Machining Services				
200	Hours	Rebuild Labor	\$90.00	\$18,000.00
1	Each	Hot Tank Block	\$60.75	\$60.75
1	Each	Bore Cylinders	\$660.10	\$660.10
1	Each	Magnetic Particle Inspection Block	\$121.50	\$121.50
3.5	Each	Fabricate Water Bleed Pipe For Front Cover	\$90.00	\$315.00
1.5	Hours	Machine Cam Housing	\$90.00	\$135.00
1	Each	Repair cylinder head (Grind & Weld Exhaust Port)	\$108.00	\$108.00
1	Each	Finish combustion chamber after weld repair	\$150.00	\$150.00
1	Each	Resurface Cylinder Head	\$67.50	\$67.50
1	Each	Rebuild and Flow Test Kugelfischer Fuel System	\$2,213.75	\$2,213.75
4	Each	Test Fuel Injectors	\$33.75	\$135.00
1	Lot	Sodium Di Chromate Magnesium Components	\$560.25	\$560.25
1	Each	Strip Clean and Powder Coat Oil Lines & Block	\$108.00	\$108.00
		Total Cost of Labor & Sublet Services		\$22,634.85
Dynamometer Test				
1	Each	Dynamometer Test	\$1,500.00	\$1,500.00



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3	Hours	Post Dynamometer Inspection, Crate, Ship	\$75.00	\$225.00
4	Each	Water Pump Lube Conklin	\$9.90	\$39.58
5	Quarts	25-50 Pennzoil Racing Oil	\$4.02	\$20.12
15	Gallons	Racing Gasoline VP C-12	\$11.66	\$174.94
		Total Costs of Dynamometer Test		\$1,959.63
Shop & Dynamometer Test Supplies				
1	Misc	Solvent, Sealants, Assembly Lube, Abrasives	\$150.00	\$150.00
		Scotch Brite, Standard Fasteners, Waste Disposal		
5	Litres	Liquid Nitrogen	\$10.10	\$50.48
		Total Cost of Shop Supplies		\$200.48
Shipping				
1	Each	Freight & Insurance Parts Outbound	\$44.77	\$44.77
1	Each	Freight & Insurance Parts Outbound	\$71.10	\$71.10
1	Each	Freight & Insurance Parts Outbound	\$192.33	\$192.33
1	Each	Freight & Insurance Parts Inbound	\$72.01	\$72.01
1	Each	Freight Parts Inbound	\$59.28	\$59.28
1	Each	Freight Parts Outbound	\$6.38	\$6.38
1	Each	Freight & Insurance Parts Inbound	\$97.87	\$97.87
1	Each	Freight	\$28.75	\$28.75
1	Each	Freight Parts Inbound	\$30.61	\$30.61
1	Each	Freight Parts Inbound	\$131.97	\$131.97
1	Each	Freight Parts Inbound	\$10.28	\$10.28
1	Each	Freight, Customs Duty Cylinder Head Inbound	\$546.15	\$546.15
1	Each	Freight, Customs, Duty Parts Inbound from Germany	\$690.17	\$690.17
1	Each	Freight Parts Inbound	\$62.50	\$62.50
1	Each	Freight Parts Inbound	\$17.16	\$17.16
1	Each	Freight Parts Outbound	\$107.19	\$107.19
		Total Shipping Costs		\$2,168.51
Summary of Costs				
		Parts		\$26,666.61
		Labor & Machining Services		\$22,634.85
		Dynamometer Testing		\$1,959.63
		Shop & Dynamometer Test Supplies		\$200.48
		Shipping		\$2,168.51
0		Indiana State Sales Tax		\$0.00
		Total Cost		\$53,630.08