



MARINE SYSTEMS, INC.

801 NW 42nd St., Suite 211, Seattle, WA 98107 Phone (260) 784-3302 Fax (260) 784-3358



To: Petersburg Municipal Power and Light
P.O. Box 329
11 South Nordic Drive
Petersburg, AK. 99833
United States
Email: aday@petersburgak.gov

Customer Account # 10142/ Quote #6240992

Dear Adam Day,

Marine Systems, Inc. appreciates the opportunity to provide you with the following estimate of repairs to the Gen Unit at Petersburg Power Plant in Petersburg AK.

As an authorized EMD distributor, Marine Systems, Inc. provides genuine OEM parts. All rebuilt components will conform to OEM dimensions, tolerances, and specifications

GENERATOR ENGINE OVERHAUL

- Disassemble and remove (16) power assemblies and related engine components.
- Inspect crankcase
- Replace water, fuel and oil pumps
- Change thermostats.
- Inspect main bearings, turbo screen, and OST Trip Assembly. **Note: Any deficiencies with camshafts, will require a CFR for repairs**
- Clean and inspect reusable engine components for power assemblies
- install 16 power assemblies with Viton head seat rings, install injectors and valve bridges
- Reassemble engine including new and remanufactured material. Torque all fasteners to specifications. Check "P" pipe alignment; verify rod thrust.

Quality Performance with Pride



- Wash down top deck area and oil pans, hand wipe oil pan and ensure cleanliness before oil is installed.
- Check camshaft timing, verify flywheel timing pointer, adjust injector and valve timing; adjust fuel racks.
- Measure and record cylinder head to piston clearance.
- Fill engines with cooling water and fuel. Check for fuel and water leaks.
- Test run engines for 1, 3, and 7minute bearing checks.
- Load Test engine.

Scope of Supplies

8	UTEX, STD POWER ASM, FORK, 14.5:1, 645ET/EB	(ETA 90- 120 Days ARO)
8	UTEX, STD POWER ASM, BLADE, 14.5:1, 645ET/EB	(ETA 90 – 170 Day ARO)
16	INJECTOR, UTEX, MUI, 645ET, 3N	
16	INSERT, LOWER LINER	
32	VALVE BRIDGE ASM, REBUILT	
16	SET, ROCKER ARM, HD	
8	BEARING-CON ROD-LOWER	
8	BEARING-CON ROD-UPPER	
16	RING, HEAD SEAT (VITON)	
16	KIT, CYL. TEST VALVE	
1	BOLT KIT, 16 CYL POWER PACK INSTALLATION	
9	ELEMENT, THERMOSTAT	
1	GASKET, 9 ELEMENT	
9	O-RING	
9	SEAT	
9	SLEEVE	
1	PUMP, FRESH WATER, LHLB	
1	PUMP, FRESH WATER, LHRB	
2	KIT-GASKET	
4	SEAL, COUPLING, 4" PIPE ID	
2	BOLT KIT, FRESHWATER PUMP	
8	BOLT, 5/8-18 X 2 1/2	
2	GASKET	



1	GASKET
2	GASKET, 2" BYPASS VALVE MTG
1	GASKET
60	WASHER, FLAT 1/2
32	WASHER, FLAT 5/8
16	NUT, SEALASTIC 1/2-20
16	NUT, SEALASTIC 5/8-18
1	PUMP, PISTON COOLING/PRESSURE (16 CYL) EB
1	KIT-GASKET
1	BOLT KIT, L/O PUMPS WITH "BOX" STRAINER
1	PUMP, SCAVENGING (16/20-645ET/EB/EC)
1	KIT, GASKET, LO SCAV PUMP
2	GASKET
1	KIT, GASKET, FO MANIFOLD
1	BOLT KIT, L/O PUMPS WITH "BOX" STRAINER
1	PUMP, FUEL, FLANGED, 3.6 GPM AT 1200 R.P.M.
1	COUPLING
1	KEY, 3/16 X 3/4
1	KEY, WOODRUFF #1 - 1/16 X 1/2
2	GASKET, FUEL PUMP FLANGE
4	BOLT, 3/8-16 X 1 1/4
4	WASHER, FLAT 3/8 SAE
2	RAGS, COTTON, 25LB
60	GLOVE, WORK, KNIT
24	BRAKE CLEANER
6	FORM-A-GASKET, NO.2, 3.0OZ TUBE(RPLS PERMATEX-2)
1	SPRAY, ADHESIVE
1	GASKET, JOINT, TURBO SCREEN
1	GASKET, CHAMBER, TURBO SCREEN
24	BOLT, MANIFOLD, 1/2-20 X 2
24	NUT, EXHAUST MANIFOLD, 1/2-20
1	KIT, GASKET, STRAINER ELEMENT
1	KIT, OST GASKET



ESTIMATED COST OF PARTS.....	\$150,278.22
ESTIMATED LABOR COST.....	\$120,400.00
ESTIMATED COST OF EXPENSES.....	\$44,927.00

Total Estimated cost to make outlined repairs on Unit \$ 315,605.22

- *Estimate based on 2 MSI Techs working at Petersburg Power Plant, Petersburg, AK.*
- *Performing out lined repairs with the assistance of plant personnel Tecs, 20 ,12-hour days*
- *1 Day travel from Seattle.*
- *1 Day Travel to Seattle.*
- *Parts will be invoiced once shipped from Marine Systems Inc. to the job site, labor and expenses will be invoiced following job completion*

CUSTOMER RESPONSIBILITIES

The Customer is responsible for the following:

1. Providing a safe work environment for our service personnel.
2. Providing crane services and/or services to facilitate material movement at the job site.
3. Providing adequate space and working conditions to effectively execute the scope of work.
4. Delays not the fault of Marine Systems, Inc.
5. Delays due to plant orientation and safety classes.
6. Providing adequate ventilation, compressed air for tooling, and lighting.
7. Providing diesel fuel oil for cleaning.
8. Removing and disposing of waste material and fluids associated with the engine services.
9. Removing and replacing any interferences.

NOTE: Marine Systems will not be responsible for removal or replacement of any fluids (oil or coolant)



COMMENTS

1. * Prices are based on the return of useable like-cores for unit exchange items. Core charges would apply for items that are non-rebuildable.
2. Non-exchange items deemed missing or non-rebuildable will be charged as additional.
3. Environmental charges, waiting time, mileage, freight, conversions, **are not** included in the above cost and will be additional.
4. ***All items cleaned, inspected, and reused are not covered by warranty**
5. The customer is responsible for all applicable sales and use taxes related to this order.

CORE CHARGE TERMS

- The following materials (cores) are to be returned to Marine Systems, Inc. Seattle, WA, within 30 Days of the completion of the project. Upon evaluation, core charges will be assessed and applied. All cores must be like in kind, complete, and rebuildable.
- Cores returned after 30 days from the date of sale may result in no credit given, unless prior written authorization is established.
- Cores will be evaluated and may have additional charges for any deficiencies to return the core to a like in kind core.
- MSI EMD power pack pricing is for like in kind Diamond <5> heads or better. Diamond <4> or less heads are subject to upgrade charges.

***All items cleaned, inspected, and reused are not covered by warranty**

Qty	Part No.	Item Description	Unit Price	Extended Price
8	40122753	FORK PACK UTEX CORE (UTEX)	\$ 2,100.00	\$ 16,800.00
8	40122754	BLADE PACK UTEX CORE (UTEX)	\$ 2,100.00	\$ 16,800.00
32	40145929	VALVE BRIDGE ASSEMBLY (UTEX)	\$ 101.25	\$ 3,240.00
16	099125HD	SET, ROCKER ARM ASSEMBLY (MSI EXCHANGE)	\$ 565.00	\$ 9,040.00
16	8478046	INJECTOR, (MODEL 645E,UTEX)	\$ 450.00	\$ 7,200.00
1	9530407	PUMP, FRESH WATER, LHLB- (MSI EXCHANGE)	\$ 1800.00	\$ 1800.00
1	9530406	PUMP, FRESH WATER, LHRB, (MSI EXCHANGE)	\$ 1800.00	\$ 1800.00
1	9330012	PUMP, PRESSURE - (MSI EXCHANGE)	\$ 2500.00	\$ 2500.00
1	8417074	PUMP, SCAVENGING, (16,20-645, E4, E4B) - (MSI EXCHANGE)	\$ 2500.00	\$ 2500.00
1	8410219-mp	FUEL PUMP (MSI EXCHANGE)	\$ 175.00	\$ 175.00
			TOTAL	\$ 61,855.00



PAYMENT TERMS

Upon establishment of an account with acceptable credit limits, payment is due thirty (30) days after receipt of invoice unless otherwise mutually agreeable payment terms are negotiated.

Marine Systems, Inc. Standard Terms and Conditions are an integral part of this quote. They are included herein by reference and are available at <https://kirbycorp.com/wp-content/uploads/2021/12/MSI-Terms-12.06.21.pdf>

This quote is valid for a period of thirty (30) days.

Thank you for giving us the opportunity to serve you. Should you have any questions or require further information, please contact me at your convenience.

Sincerely,

Chris Strahan

MSI West Coast - Service
(206) 788-2132

