



# MERCANTILE MARITIME SOLUTIONS PTE LTD

Company Reg. No. 201419851N

Add: #14-12, International Plaza, 10 Anson Road Singapore 079903  
E-mail: [sales@mercantile.sg](mailto:sales@mercantile.sg)

Tel : (+65) 6220-4882  
Fax (+65) 6225-4470

## FUEL PUMP INSPECTION REPORT

JOB NO : 1604078 TYPE : KAWASAKI B&W 7S80MC-C  
 CUSTOMER : \_\_\_\_\_ DATE INSPECTION : 6/3/2016  
 VESSEL : \_\_\_\_\_ CUSTOMER W/O NO : 2090-E-16-804 (91022230)  
 PREPARE BY : Maung CUSTOMER REQUIRE :  Normal Time  
 DESCRIPTION : 7 nos M/E Fuel Pumps  Urgent Time  
 Remarks : \_\_\_\_\_

Job Performed workscope  Inspected  
 Not Applicable

Disassembling, chemical cleaned of fuel pump

### Condition of valve assembly

<input checked="" type="checkbox"/>	Suction casing seat wear	Qty <u>7</u> nos
<input type="checkbox"/>	Suction casing beyond repair	Qty <u>-</u> nos
<input checked="" type="checkbox"/>	Suction valve or disc face wear	Qty <u>7</u> nos
<input type="checkbox"/>	Suction valve broken	Qty <u>-</u> nos
<input checked="" type="checkbox"/>	Puncture casing seat wear	Qty <u>7</u> nos
<input type="checkbox"/>	Puncture casing beyond repair	Qty <u>-</u> nos
<input checked="" type="checkbox"/>	Puncture valve face wear	Qty <u>7</u> nos
<input type="checkbox"/>	Puncture valve broken	Qty <u>-</u> nos

### Condition of spring

<input type="checkbox"/>	Puncture valve spring wear	Qty <u>-</u> nos
<input type="checkbox"/>	Puncture valve spring broken	Qty <u>-</u> nos
<input checked="" type="checkbox"/>	Suction valve spring wear / short	Qty <u>7</u> nos
<input type="checkbox"/>	Suction valve spring broken	Qty <u>-</u> nos
<input checked="" type="checkbox"/>	Shock absorber spring external wear / broken	Qty <u>2</u> nos
<input checked="" type="checkbox"/>	Shock absorber spring internal wear / broken	Qty <u>2</u> nos

### Condition of shock absorber

<input checked="" type="checkbox"/>	Shock absorber casing liner score	Qty <u>-</u> nos
<input checked="" type="checkbox"/>	Shock absorber piston score	Qty <u>-</u> nos
<input checked="" type="checkbox"/>	Shock absorber spring retainer wear	Qty <u>7</u> nos



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## Condition of pump housing

<input checked="" type="checkbox"/>	Pump casing top half liner score (Slight Scoring)	Qty <u>7</u> nos
<input checked="" type="checkbox"/>	Pump casing lower half liner score (Slight Scoring)	Qty <u>7</u> nos
<input type="checkbox"/>	Pump casing beyond repair	Qty <u>-</u> nos

## Additional workdone

Additional workdone on Fuel Pump  Job carried out

Job performed workscope  Not applicable

<input checked="" type="checkbox"/>	Suction casing internal seat to be machined ground	Qty <u>7</u> nos
<input checked="" type="checkbox"/>	Suction valve lid to be machined grind	Qty <u>7</u> nos
<input checked="" type="checkbox"/>	Puncture valve internal seat to be machined ground	Qty <u>7</u> nos
<input checked="" type="checkbox"/>	Puncture valve lid to be machined ground	Qty <u>7</u> nos
<input type="checkbox"/>	Top Cover Landing surface of Puncture Valve to be machined	Qty <u>      </u> nos
<input type="checkbox"/>	Top Cover Landing surface of Suction Valve to be machined	Qty <u>-</u> nos

## Additional recommendation & information

- a) Plug Screw all Grind to remove cavitation and Re-use (Recommend to re-new on Next Docking)
- b) All Timing Guide (433A 12) contact surface scratch marks (polished and Re-used)
- c) # 1, 2 Shock Absorber Spring (External & Internal) Re-new
- d) #1 Shock Absorber Spring Guide Re-New
- e) All Suction Valve Spring replaced with NEW
- f) No. 4 Unit installed with NEW PLUNGER BARREL

Client : \_\_\_\_\_  
 Vessel : 0  
 Model : KAWASAKI B&W 7S80MC-C  
 Date : 18-Jun-16

FUEL PUMP CALIBRATION / INSPECTION REPORT

Job No : 1604078  
 Calibrated by : Sun  
 Calibrated Tool : Mitutoyo Micrometer  
 CR No. : ADG-2  
 Calibration No. : 102-183

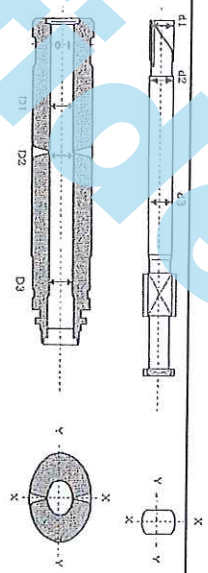
MEASUREMENT UNIT : (1/1000) MM

Unit No.	POS	BARREL			PLUNGER			CLEARANCE			REMARKS (Plunger Barrel Mark)
		D1	D2	D3	d1	d2	d3	D-d	D-d	D-d	
1	X-X	90.020	90.016	90.042	89.978	89.975	89.977	42	41	65	07-384
	Y-Y	90.020	90.016	90.042	89.976	89.975	89.977	44	41	65	
2	X-X	90.024	90.021	90.042	89.989	89.987	89.985	35	34	57	07-380
	Y-Y	90.023	90.022	90.042	89.990	89.988	89.983	33	34	59	
3	X-X	90.022	90.018	90.043	89.981	89.979	89.976	41	39	67	07-379
	Y-Y	90.021	90.019	90.041	89.981	89.978	89.976	40	41	65	
4	X-X	90.021	90.015	90.055	89.974	89.973	89.967	47	42	88	07-382
	Y-Y	90.018	90.013	90.053	89.973	89.972	89.968	45	41	85	
5	X-X	90.016	90.014	90.051	89.976	89.974	89.970	40	40	81	07-381
	Y-Y	90.015	90.014	90.046	89.976	89.974	89.969	39	40	77	
6	X-X	90.018	90.015	90.036	89.978	89.977	89.980	40	38	56	07-383
	Y-Y	90.017	90.016	90.038	89.978	89.977	89.980	39	39	58	
7	X-X	90.025	90.020	90.044	89.980	89.978	89.975	45	42	69	07-388
	Y-Y	90.023	90.019	90.042	89.979	89.978	89.974	44	41	68	

Remark : Total 7 nos plunger & barrel carried out inspection & calibration. Found No 4 Throttle plug missing

NOMINAL D/A : 90.0 mm  
 STANDARD CLEARANCE : 30 - 35 μ M  
 MAX. CLEARANCE LIMIT : 70 μ M

\* Max. Clearance limits for D1 & D2 area.  
 Plunger Mark - 3302537





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CUSTOMER : \_\_\_\_\_

JOB NO : 1604078

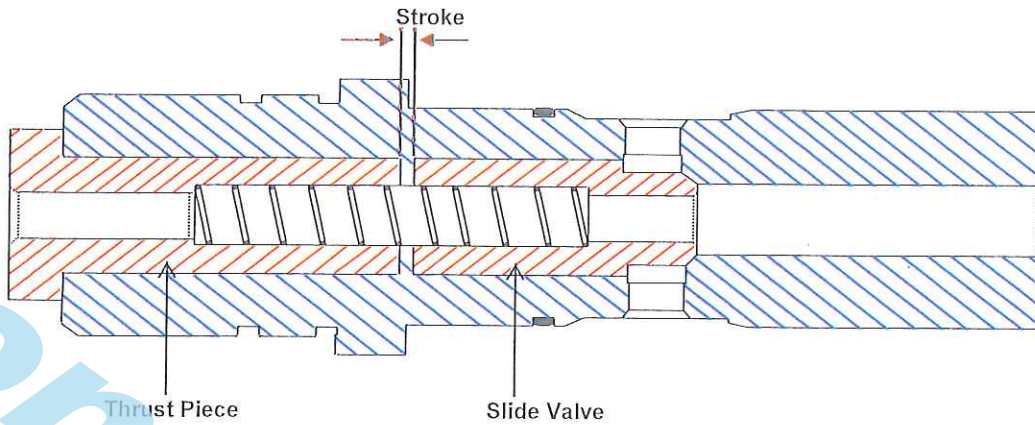
VESSEL : 0

DATE RECEIVED : 18-Jun-16

TYPE : KAWASAKI B&W 7S80MC-C

Measured by : Sun

Measured Tool : Mitutoyo Digimatic Depth Gage



## Fuel Pump Suction Valve

Cylinder Unit	#1	#2	#3	#4	#5	#6	#7
Body No.							
Stroke	9.04	9.30	9.14	9.11	9.09	8.96	9.12
Remark							

Maximum Limit : 10.0 mm

Remarks : All Suction Valve stroke (lift) within the limit, Recondition and Re-use  
All Suction Valve Renew Spring

Customer : 0  
 Vessel : 0  
 Model : KAWASAKI B&W 7S80MC-C  
 Date : 25-Jun-16

Job No : 2207-E-16-810 (91022230)  
 Calibrated by : Chai

**FUEL PUMP TOP LIFT CALIBRATION REPORT**

MEASUREMENT UNIT : LIFT (MM)

	1	2	3	4	5	6	7						
Shop Trial Data	Lift (bTDC)	22.20	21.92	22.20	21.92	21.40	21.05	21.40					
Current Dry Dock (25/06/2016)	Lift (bTDC)	22.07	21.86	22.05	21.85	21.35	20.88	21.28					
Remark													





Dismantling of Fuel Pumps



Dismantling of Fuel Pumps  
Found Oil Sludge on Barrel top side



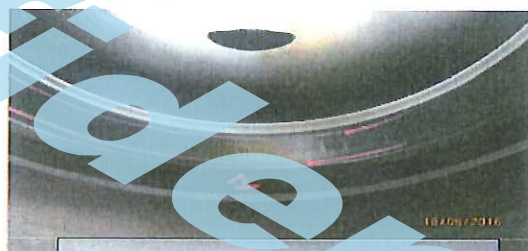
Found Shock Absorber leakage



After cleaning Top Covers



After cleaning the Shock absorber



Found all Pump Body Barrel Seal sitting area



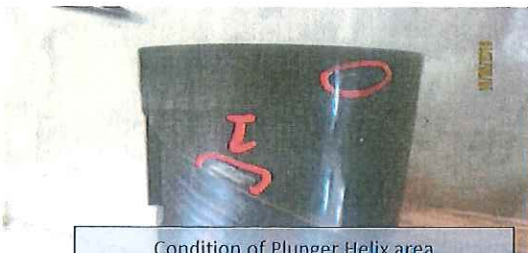
After Cleaning the Barrel



Found #4 Barrel Orifit missing



After cleaning the Plunger



Condition of Plunger Helix area



Found #2 Plunger Nob hit marks



After cleaning the Pump Body

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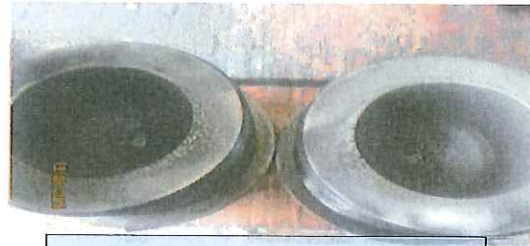
Found Shock Absorber Piston scratch marks



After Polish the Shock Absorber Piston



Crack check for Suction Valve



Found all Plung Screw small cavitation, polish



#1 & 2 Spring (External & Internal) re-new



Re-assemble of Shock Absorber

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Suction valve / Puncture Valve landing surface machine grind & confirm contact



Found all Timing Guide contact surface worn down

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