



MILLINGTON, TN

September 23, 2021

US Farathane

Subject: September vibration service report

Most of the machines surveyed were found to be in good condition with the exception of the following:

QualiTest® uses a four step rating system for defects.

Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

Class II: Defect (s) present that may cause problem in long term (2-6 months.). Repair during normal maintenance scheduling. Continue to monitor.

Class III: Defect (s) present that may cause failure in short term (less than 2 months.). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

Class IV: Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

Hi-Speed Industrial Service tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.

This completes our assessment of your equipment for this survey. Thank you for your business and don't hesitate to call if you have any comments or questions.

Sincerely,

David W. Shook
Senior Reliability Specialists
Hi-Speed Industrial Service
dshook@gohispeed.com

Detailed Defects

Press 3 HYD Unit 1

This unit has a 1x RPM vibration that is dominant in the pump. Inspect the drivetrain, frame, base, and all fasteners. We suspect a coupling issue is the root cause. **Rated a Class I Defect.**

Press 6 HYD Unit

The motor to pump flange adapter was full of oil. We suspect a shaft seal leak on pump 1.

Press 8 HYD Unit

This unit has a 1x RPM vibration that is dominant in both pumps. Inspect the drivetrain, frame, base, and all fasteners. We suspect a coupling issue is the root cause. **Rated a Class II Defect.**

Press 11 HYD Unit

This unit still has a large 1x RPM vibration that is dominant in the pump. Inspect the drivetrain, frame, base, and all fasteners. Check for run out. We suspect a coupling issue is the root cause. **Rated a Class III Defect.**

Press 15 Unit 1 (west)

This unit data has 1x and 2x RPM vibrations that are dominant as well as shaft speed and pump passing harmonics. 2x RPM vibrations are most always the result of alignment issues. Pump adapter bores could be machined off center. Inspect the drivetrain, frame, base, and all fasteners Check for shaft run out and coupling eccentricity. Check pump operation, screens, and filters due to harmonics in the data. Motor bearing fits could be slightly worn. **Rated a Class I Defect.**

Press 15 Unit 2 (east)

This unit data has 1x, 2x and 3x RPM vibrations as well as additional multiple shaft speed harmonics. 2x and 3x RPM vibrations are most always the result of alignment issues. Pump adapter bores could be machined off center. Inspect the drivetrain, frame, base, and all fasteners Check for shaft run out and coupling eccentricity. Check pump operation, screens, and filters due to harmonics in the data. Motor bearing fits could be slightly worn. **Rated a Class II Defect.**

Press 16 Unit 1 (west)

This unit data has 1x and 2x RPM vibrations as well as additional multiple shaft speed harmonics. 2x RPM vibrations are most always the result of alignment issues. Pump adapter bores could be machined off center. Inspect the drivetrain, frame, base, and all fasteners Check for shaft run out and coupling eccentricity. Check pump operation, screens, and filters due to harmonics in the data. Motor bearing fits could be slightly worn. **Rated a Class II Defect.**

Abbreviated Last Measurement Summary

Database: US FARATHANE.rbm
Area: FRONT LINE
Route No. 1: FRONT LINE
Report Date: 23-Sep-21 12:28

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	EQUIPMENT SPEED
3-1	- PRESS 3 UNIT 1	(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.111 In/Sec	.079 G-s	3580.0 RPM
MIH	.092 In/Sec	.155 G-s	
MIA	.064 In/Sec	.267 G-s	
PIH	.259 In/Sec	.683 G-s	
PIV	.167 In/Sec	.331 G-s	
PIA	.159 In/Sec	.364 G-s	
3-2	- PRESS 3 UNIT 2	(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.016 In/Sec	.078 G-s	3580.0 RPM
MIH	.077 In/Sec	.187 G-s	
MIA	.114 In/Sec	.172 G-s	
PIH	.032 In/Sec	.478 G-s	
PIV	.106 In/Sec	.076 G-s	
PIA	.044 In/Sec	.477 G-s	
4-1	- PRESS 4 UNIT 1	(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.049 In/Sec	.107 G-s	3580.0 RPM
MIH	.037 In/Sec	.198 G-s	
MIA	.032 In/Sec	.059 G-s	
PIH	.098 In/Sec	1.492 G-s	
PIV	.069 In/Sec	.449 G-s	
PIA	.036 In/Sec	.461 G-s	
4-2	- PRESS 4 UNIT 2	(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.085 In/Sec	.082 G-s	3580.0 RPM
MIH	.110 In/Sec	.159 G-s	
MIA	.109 In/Sec	.253 G-s	
PIH	.139 In/Sec	.302 G-s	
PIV	.121 In/Sec	.457 G-s	
PIA	.112 In/Sec	.437 G-s	
6	- PRESS 6	(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.071 In/Sec	.226 G-s	3580.0 RPM
MIH	.075 In/Sec	.460 G-s	
MIA	.080 In/Sec	.584 G-s	
PIH	.098 In/Sec	.553 G-s	

	P1V	.086 In/Sec	.456 G-s	
	P2H	.164 In/Sec	.530 G-s	
	P2V	.117 In/Sec	.732 G-s	
7	- PRESS 7		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz		
	MOH	.046 In/Sec	.122 G-s	3580.0 RPM
	MIH	.055 In/Sec	.847 G-s	
	MIA	.055 In/Sec	.167 G-s	
	P1H	.073 In/Sec	.266 G-s	
	P1V	.090 In/Sec	.574 G-s	
	P2H	.106 In/Sec	.217 G-s	
	P2V	.101 In/Sec	.177 G-s	
34	- PRESS 34		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz		
	MOH	.051 In/Sec	.146 G-s	3580.0 RPM
	MIH	.080 In/Sec	.172 G-s	
	MIA	.056 In/Sec	.636 G-s	
	P1H	.071 In/Sec	.915 G-s	
	P1V	.046 In/Sec	.286 G-s	
	P2H	.098 In/Sec	.460 G-s	
	P2V	.048 In/Sec	.521 G-s	
8	- PRESS 8		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz		
	MOH	.078 In/Sec	.135 G-s	3580.0 RPM
	MIH	.109 In/Sec	.204 G-s	
	MIA	.078 In/Sec	.267 G-s	
	P1H	.218 In/Sec	.558 G-s	
	P1V	.173 In/Sec	.236 G-s	
	P2H	.291 In/Sec	.215 G-s	
	P2V	.278 In/Sec	.242 G-s	
9	- PRESS 9		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz		
	MOH	.086 In/Sec	.165 G-s	3580.0 RPM
	MIH	.069 In/Sec	.268 G-s	
	MIA	.046 In/Sec	.488 G-s	
	P1H	.063 In/Sec	.224 G-s	
	P1V	.076 In/Sec	1.011 G-s	
	P2H	.078 In/Sec	.404 G-s	
	P2V	.073 In/Sec	.365 G-s	
10	- PRESS 10		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz		
	MOH	.088 In/Sec	.168 G-s	3580.0 RPM
	MIH	.120 In/Sec	.528 G-s	
	MIA	.058 In/Sec	.956 G-s	
	P1H	.097 In/Sec	.416 G-s	
	P1V	.101 In/Sec	.754 G-s	
	P2H	.191 In/Sec	.318 G-s	
	P2V	.136 In/Sec	.420 G-s	
11	- PRESS 11		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz		
	MOH	.453 In/Sec	.400 G-s	3580.0 RPM

MIH	.429 In/Sec	.283 G-s
MIA	.292 In/Sec	.132 G-s
PIH	.485 In/Sec	.546 G-s
PIV	.788 In/Sec	.606 G-s
PIA	.267 In/Sec	.706 G-s

Clarification Of Vibration Units:

Acc	-->	G-s	RMS
Vel	-->	In/Sec	PK

* - Indicates Data Has Date/Time Different From Equipment Date/Time
Abbreviated Last Measurement Summary

Database: US FARATHANE.rbm
Area: BACK LINE
Route No. 1: BACK LINE
Report Date: 23-Sep-21 12:28

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	EQUIPMENT SPEED
-----	-----	-----	-----
13 - PRESS 13		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.055 In/Sec	.232 G-s	3580.0 RPM
MIH	.066 In/Sec	.269 G-s	
MIA	.054 In/Sec	.155 G-s	
PIH	.084 In/Sec	.254 G-s	
PIV	.040 In/Sec	.330 G-s	
PIA	.047 In/Sec	.493 G-s	
14A-1 - PRESS 14A UNIT 1		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.122 In/Sec	.372 G-s	3580.0 RPM
MIH	.153 In/Sec	.196 G-s	
MIA	.135 In/Sec	.624 G-s	
P1H	.144 In/Sec	.765 G-s	
P1V	.107 In/Sec	.462 G-s	
P2H	.139 In/Sec	1.151 G-s	
P2V	.119 In/Sec	.385 G-s	
14A-2 - PRESS 14A UNIT 2		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.043 In/Sec	.106 G-s	3580.0 RPM
MIH	.037 In/Sec	.115 G-s	
MIA	.041 In/Sec	.050 G-s	
P1H	.082 In/Sec	.242 G-s	
P1V	.067 In/Sec	.147 G-s	
15-1 - PRESS 15 UNIT 1		(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.251 In/Sec	.226 G-s	3580.0 RPM
MIH	.163 In/Sec	.162 G-s	
MIA	.216 In/Sec	.090 G-s	

	P1H	.304 In/Sec	.696 G-s	
	P1V	.234 In/Sec	.487 G-s	
	P2H	.181 In/Sec	1.014 G-s	
	P2V	.149 In/Sec	.483 G-s	
	P3H	.298 In/Sec	.339 G-s	
	P3V	.259 In/Sec	.529 G-s	
15-2	- PRESS 15 UNIT 2		(22-Sep-21)	
	OVERALL LEVEL		1K-20KHz	
	MOH	.455 In/Sec	.353 G-s	3580.0 RPM
	MIH	.467 In/Sec	.187 G-s	
	MIA	.250 In/Sec	.429 G-s	
	P1H	.467 In/Sec	.493 G-s	
	P1V	.355 In/Sec	.323 G-s	
	P2H	.311 In/Sec	.560 G-s	
	P2V	.201 In/Sec	.517 G-s	
	P3H	.155 In/Sec	.793 G-s	
	P3V	.217 In/Sec	.121 G-s	
16-1	- PRESS 16 UNIT 1		(22-Sep-21)	
	OVERALL LEVEL		1K-20KHz	
	MOH	.255 In/Sec	.013 G-s	3580.0 RPM
	MIH	.254 In/Sec	.186 G-s	
	MIA	.112 In/Sec	.212 G-s	
	P1H	.257 In/Sec	.764 G-s	
	P1V	.275 In/Sec	1.110 G-s	
	P2H	.163 In/Sec	.336 G-s	
	P2V	.182 In/Sec	.360 G-s	
	P3H	.444 In/Sec	.444 G-s	
	P3V	.204 In/Sec	.992 G-s	
16-2	- PRESS 16 UNIT 2		(22-Sep-21)	
	OVERALL LEVEL		1K-20KHz	
	MOH	.294 In/Sec	1.522 G-s	3580.0 RPM
	MIH	.200 In/Sec	.690 G-s	
	MIA	.246 In/Sec	.383 G-s	
	P1H	.347 In/Sec	2.012 G-s	
	P1V	.256 In/Sec	.933 G-s	
	P2H	.278 In/Sec	.648 G-s	
	P2V	.211 In/Sec	.601 G-s	
	P3H	.324 In/Sec	1.300 G-s	
	P3V	.269 In/Sec	1.271 G-s	
35	- PRESS 35		(22-Sep-21)	
	OVERALL LEVEL		1K-20KHz	
	MOH	.122 In/Sec	.349 G-s	3580.0 RPM
	MIH	.047 In/Sec	.189 G-s	
	MIA	.058 In/Sec	.300 G-s	
	P1H	.143 In/Sec	1.565 G-s	
	P1V	.034 In/Sec	.364 G-s	
	P2H	.104 In/Sec	.531 G-s	
	P2V	.056 In/Sec	.765 G-s	
18-1	- PRESS 18 UNIT 1		(22-Sep-21)	
	OVERALL LEVEL		1K-20KHz	
	MOH	.067 In/Sec	.693 G-s	3580.0 RPM
	MIH	.045 In/Sec	.364 G-s	

	MIA	.059 In/Sec	1.351 G-s	
	P1H	.135 In/Sec	1.854 G-s	
	P1V	.068 In/Sec	.659 G-s	
	* P2H	.076 In/Sec	.938 G-s	
	* P2V	.177 In/Sec	.418 G-s	
18-2	- PRESS 18 UNIT 2	(22-Sep-21)		
	OVERALL LEVEL	1K-20KHz		
	MOH	.065 In/Sec	.693 G-s	3580.0 RPM
	MIH	.054 In/Sec	.251 G-s	
	MIA	.094 In/Sec	.431 G-s	
	P1H	.097 In/Sec	.362 G-s	
	P1V	.093 In/Sec	.426 G-s	
	* P2H	.120 In/Sec	.662 G-s	
	* P2V	.399 In/Sec	1.973 G-s	
33-1	- PRESS 33 UNIT 1	(22-Sep-21)		
	OVERALL LEVEL	1K-20KHz		
	MOH	.079 In/Sec	.378 G-s	3580.0 RPM
	MIH	.065 In/Sec	.586 G-s	
	MIA	.058 In/Sec	.541 G-s	
	P1H	.115 In/Sec	.777 G-s	
	P1V	.082 In/Sec	1.032 G-s	
	P2H	.130 In/Sec	.255 G-s	
	P2V	.111 In/Sec	1.244 G-s	
33-2	- PRESS 33 UNIT 2	(22-Sep-21)		
	OVERALL LEVEL	1K-20KHz		
	MOH	.056 In/Sec	.515 G-s	3580.0 RPM
	MIH	.062 In/Sec	1.430 G-s	
	MIA	.131 In/Sec	.379 G-s	
	P1H	.170 In/Sec	.994 G-s	
	P1V	.078 In/Sec	.903 G-s	
	P2H	.134 In/Sec	.444 G-s	
	P2V	.119 In/Sec	.690 G-s	
20-1	- PRESS 20 UNIT 1	(22-Sep-21)		
	OVERALL LEVEL	1K-20KHz		
	MOH	.030 In/Sec	.263 G-s	3580.0 RPM
	MIH	.100 In/Sec	.374 G-s	
	MIA	.076 In/Sec	.620 G-s	
	P1H	.094 In/Sec	.530 G-s	
	P1V	.130 In/Sec	.742 G-s	
	P2H	.317 In/Sec	1.429 G-s	
	P2V	.181 In/Sec	1.372 G-s	
20-2	- PRESS 20 UNIT 2	(22-Sep-21)		
	OVERALL LEVEL	1K-20KHz		
	MOH	.084 In/Sec	.193 G-s	3580.0 RPM
	MIH	.051 In/Sec	.138 G-s	
	MIA	.102 In/Sec	.370 G-s	
	P1H	.432 In/Sec	.965 G-s	
	P1V	.165 In/Sec	1.501 G-s	
	P2H	.147 In/Sec	.517 G-s	
	P2V	.155 In/Sec	1.245 G-s	
	* P3H	.163 In/Sec	.918 G-s	

* P3V	.094 In/Sec	.781 G-s	
33-3	- PRESS 33 UNIT 3	(22-Sep-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.062 In/Sec	.594 G-s	3580.0 RPM
MIH	.068 In/Sec	.816 G-s	
MIA	.080 In/Sec	.797 G-s	
P1H	.079 In/Sec	.607 G-s	
P1V	.050 In/Sec	.498 G-s	
P2H	.080 In/Sec	1.141 G-s	
P2V	.040 In/Sec	.299 G-s	
P3H	.099 In/Sec	1.239 G-s	
P3V	.114 In/Sec	1.263 G-s	

Clarification Of Vibration Units:

Acc	-->	G-s	RMS
Vel	-->	In/Sec	PK

* - Indicates Data Has Date/Time Different From Equipment Date/Time

Notepad Observations Summary Report

Database: US FARATHANE.rbm
Area: FRONT LINE
Report Date: 23-Sep-21 12:37

POINT	DATE	OBSERVATIONS
----	----	-----
5B	--> PRESS 5B	
MOH	22-Sep-21	ACCESS IS DIFFICULT/DANGEROUS
7B	--> PRESS 7B	
MOH	22-Sep-21	ACCESS IS DIFFICULT/DANGEROUS
6	--> PRESS 6	
MOH	22-Sep-21	LEAKING OIL/HYDRAULIC FLUID
MOH	22-Sep-21	OIL AT COUPLING