

EVERY DAY SINCE 1946

LR Motor Shop Repairs

Job Number 102711

Prepared for ARKANSAS INDUSTRIAL MACHINERY

3804 N. NONA ST NORTH LITTLE ROCK AR 72118

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AC Inspection - Rev. 2: 3GV1211067435003

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Hi-Speed Industrial Service 7030 Ryburn Dr Millington, Tn 38053 901-873-5300

> FolderID: 102711 FormID: 20193256

AC Inspection as Found

ARKANSAS INDUSTRIAL MACHINERY

3804 N. NONA ST NORTH LITTLE ROCK, AR 72118

AC Inspection - Rev. 2

Location:	Shop
Serial Number:	3GV1211067435003

Description:75KW ABB 3581 RPM

Hi-Speed Job Number:	102711
Manufacturer:	ABB
Product Number:	M: M3AA250SMB-2
Serial Number:	3GV1211067435003
HP/kW:	75 (kW)
RPM:	3581 (RPM)
Frame:	350SMB
Voltage:	460
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	6
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	03/27/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	Yes
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **11 - Good**

Overall Condition

1. Report Date

04/26/2024

2. Nameplate Picture





3. Photos of all six sides of the machine.





















Water in remaining oil and metal shavings



Excessive wear where the gear rides







	4.	Describe the Overall Condition of the Equipment as Received Dirty		
	5. Report Date [COPY]			
In	Initial Mechanical/Electrical			
	6.	Does Shaft Turn Freely?	(Y) Yes	
	7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	(No) No	

8. Doe	es Shaft Have Visible Damage?	(Yes) Yes
Exc	essive wear on gear fit	
9. Ass	embled Shaft Runout	Inches
Una	ble to get accurate measurements due to wear	
10. Ass	embled Shaft End Play	inches
🗭 Na		
11. Air (Gap Variation <10%	
Na Na		
	d Condition	(P) Pass
	d Length	100 Inches
	es it have Lugs?, If so what is the Stud Size?	(No) No
🗭 Has	end clamps	
15. Lea	d Numbers	1-6
16. Fran	me Condition	pass
) 17. Fan	Condition	(P) Pass
18. Brol	ken or Missing Components	na
Initial Elec	ctrical Inspection	
19. Insu — Na	ulation Resistance/Megger	Megohms
Max Delta R %	0.593	
Coil 1 (Ohms)	0.0453 Corr: 0	
Coil 2 (Ohms)	0.0452 Corr: 0	
Coil 3 (Ohms)	0.0457 Corr: 0	
Megohm Stat	PASS. No Test	
Volts (V)	501	
I(µA) Resist	0.2361 2122	
At 40°C	572	
PI Status	No Test No Test	
Nameplate	Application Results Summar	

20. Winding Resistance		
1-2	1-3	2-3
Na Na		
IR Temp Com Thermoplastic None		
Resist Status PASS No Test		
Bal L1 (Ohms)		
Bal L2 (Ohms)		
BalL3 (Ohms)		
L1-L2 (Ohms) 0.0303 Corr: 0		
L2-L3 (Ohms) 0.0302 Corr: 0		
L3-L1 (Ohms) 0.0304 Corr: 0 Max Delta R % 0.593		
Coil 1 (Ohms) 0.0453 Corr. 0		
Coil 2 (Ohms) 0.0452 Corr; 0		
Coil 3 (Ohms) 0.0457 Corr: 0 Mercohon Stat: PASS No Test		
Nameplate Application Results Summary		
The second se		
21. Perform Surge Test		(P) Pass
- 0		
ow Tools Help		
Data Tests Trending Text10: 460V w/dRTRk10HP Step Image: Cable Cablesion		
For 100 Volt _ Motors		
Temperature/Resistance Tests		
DR Resistance 3LeadLow V PRXS		
Bit HegDhm 500 Volt PR65 _0FF		
Res Volage 1500 Vola		
2007 Suge 1500 Valt 74435		
CAP NUM		
A 4 400000 C		
Real of the State		
A language and the second seco		
22. Number of Stator Slots		48
23. Stator Condition		pass
24. Stator Thermistors/Ohms		na
25. Stator Overloads/Ohms		
Na		
Mechanical Inspection		

26. Drive End Bearing Brand



27. Drive End Bearing Number-	NU 213
28. Drive End Bearing Qty.	1
29. Drive End Bearing Type	(Roller) Roller Bearing
30. Drive End Lubrication Type	(Oil) Oil Lubricated
31. Drive End Bearing Insulation or Grounding Device?	na
32. Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring
33. Drive End Bearing Condition	

Signs of contamination



34. Opposite Drive End Bearing Brand



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SKF

35.	Opposite Drive End Bearing Number-	6215
36.	Opposite Drive End Bearing Qty.	1
37.	Opposite Drive End Bearing Type	(Ball) Ball Bearing
38.	Opposite Drive End Lubrication Type	(Grease) Grease Lubricated
39.	Opposite Drive End Bearing Insulation or Grounding Device?	na
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring

- 41. Opposite Drive End Bearing Condition
- Bad



42.	Drive End Seal					
	Seal kit					
43.	Opposite Drive End Seal					
	Na					
Rotor	Inspection					
44.	Rotor Type/Material		(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast			
45.	Growler Test		(Pass) Pass			
46.	Number of Rotor Bars		40			
47.	Rotor Condition		pass			
48.	48. List the Parts needed for the Repair Below					
	Seal kit NU213 6215					
49. Signature of Technician that Disassembled Motor Cw						
Mecha	Mechanical Fits- Rotor					
50.	Shaft Runout		inches			
	To much wear to get accurate measurements					
51.	Rotor Runout					
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing			
	Na					

	50	Coupling Fit Closest to Bearing Housing				
	52.					
		0 Degrees	90 Degrees	120 Degrees		
	•	Na				
	53.	Coupling Fit Closest to the end of the	Shaft			
		0 Degrees	60 Degrees	120 Degrees		
	-	Na				
	54.	Drive End Bearing Shaft Fit				
		0 Degrees	60 Degrees	120 Degrees		
		2.5602	2.5602	2.5602		
	55.	Drive End Bearing Shaft Fit Condition			(P) Pass	
	56.	Opposite Drive End Bearing Shaft Fit				
		0 Degrees	60 Degrees	120 Degrees		
		2.9534	2.9533	2.9534		
	57.	Opposite Drive End Bearing Shaft Fit	Condition		(P) Pass	
	58.	Shaft Air Seal Fits				
		Drive End Air Seal	Opposite Drive End Air Seal			
	-	Na				
Me		anical Fits- Bearing Housings				
	59.	Drive End - Endbell Bearing Fit				
		0 Degrees	60 Degrees	120 Degrees		
		4.7253	4.7253	4.7254		
	60.	Drive End - Endbell Bearing Fit Condi	tion		(P) Pass	
_		Bitto Ena Enaboli Boaring Fit Cona			(.)	
		Opposite Drive End - Endbell Bearing			()	
				120 Degrees	() - 200	
		Opposite Drive End - Endbell Bearing	Fit	120 Degrees 5.1188	()	
	61.	Opposite Drive End - Endbell Bearing 0 Degrees	Fit 60 Degrees 5.1189	-	(P) Pass	
	61. 62.	Opposite Drive End - Endbell Bearing 0 Degrees 5.119	Fit 60 Degrees 5.1189	-		
	61. 62.	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing	Fit 60 Degrees 5.1189	-		
	61. 62. 63.	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap	Fit 60 Degrees 5.1189 Fit Condition	-		
	61. 62. 63.	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass	Fit 60 Degrees 5.1189 Fit Condition	-		
	61. 62. 63.	Opposite Drive End - Endbell Bearing O Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass End Bell Air Seal Fits	Fit 60 Degrees 5.1189 Fit Condition Opposite Drive End Bearing Cap	-		
	61. 62. 63.	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass	Fit 60 Degrees 5.1189 Fit Condition	-		
	61.62.63.64.	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass End Bell Air Seal Fits Drive End Air Seal	Fit 60 Degrees 5.1189 Fit Condition Opposite Drive End Bearing Cap	-		
	61.62.63.64.	Opposite Drive End - Endbell Bearing O Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass End Bell Air Seal Fits Drive End Air Seal	Fit 60 Degrees 5.1189 Fit Condition Opposite Drive End Bearing Cap	-		
	61.62.63.64.	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass End Bell Air Seal Fits Drive End Air Seal Na List Machine Work Needed Below	Fit 60 Degrees 5.1189 Fit Condition Opposite Drive End Bearing Cap	-		
	 61. 62. 63. 64. 65. 	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass End Bell Air Seal Fits Drive End Air Seal Na List Machine Work Needed Below DE shaft gear fit	Fit 60 Degrees 5.1189 Fit Condition Opposite Drive End Bearing Cap	-		
	 61. 62. 63. 64. 65. 66. 	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass End Bell Air Seal Fits Drive End Air Seal Na List Machine Work Needed Below DE shaft gear fit Technician	Fit 60 Degrees 5.1189 Fit Condition Opposite Drive End Bearing Cap Opposite Drive End Air Seal	-	(P) Pass	
R	61. 62. 63. 64. 65. 66.	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass End Bell Air Seal Fits Drive End Air Seal Na List Machine Work Needed Below DE shaft gear fit Technician Cause of Failure	Fit 60 Degrees 5.1189 Fit Condition Opposite Drive End Bearing Cap Opposite Drive End Air Seal	-	(P) Pass	
R	61. 62. 63. 64. 65. 66.	Opposite Drive End - Endbell Bearing 0 Degrees 5.119 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap Pass End Bell Air Seal Fits Drive End Air Seal Na List Machine Work Needed Below DE shaft gear fit Technician	Fit 60 Degrees 5.1189 Fit Condition Opposite Drive End Bearing Cap Opposite Drive End Air Seal	-	(P) Pass	

68. Root cause of failure Excessive wear		
Dynamic Balance Report		
69. Rotor Weight and Balance Grade		
Rotor Weight	Balance Grade	



70.	Initial Balance Readings		
	Drive End	Opposite Drive End	
	.80	.87	
71.	Final Balance Readings		
	Drive End	Opposite Drive End	
	.13	.20	
72.	Technician		RW
Mech	anical Fits- Rotor - Post Repair		
73.	Shaft Runout Post Repair		inches
74.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
75.	Coupling Fit Closest to Bearing Hous	ing Post Repair	
	0 Degrees	90 Degrees	120 Degrees
	5	5	5
76.	Coupling Fit Closest to the end of the	Shaft Post Repair	
	0 Degrees	60 Degrees	120 Degrees
77.	Drive End Bearing Shaft Fit Post Rep		
	0 Degrees	60 Degrees	120 Degrees
78.	Opposite Drive End Bearing Shaft Fit	Post Repair	
	0 Degrees	60 Degrees	120 Degrees
	0	<u> </u>	0

79. Shaft Air Seal Fits Post Repair Drive End Air Seal

Opposite Drive End Air Seal

80. Shaft Repair Sign-off

Assembly

81. QC Check All Parts for Cleanliness Prior to Assembly

82. Photograph All Major Components prior to assembly









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(Complete) Complete

RW















83. Final Insulation Resistance Test





84. Assembled Shaft Endplay			inches
85. Assembled Shaft Runout			inches
86. Test Run Voltage			
Volts	Volts	Volts	
92	90	90	



Co sign TRH

87. Test Run Amperage			
Amps	Amps	Amps	

	14.9	24.8	14.8
88.	rive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
89.	Opposite Drive End Vibration Reading	gs - Inches Per Second	
	Horizontal	Vertical	Axial
90.	Ambient Temperature - Fahrenheit		
91.	Drive End Bearing Temps - Fahrenhe	it	
	5 Minutes	10 Minutes	15 Minutes
92.	Opposite Drive End Bearing Temps -	Fahrenheit	
	5 Minutes	10 Minutes	15 Minutes

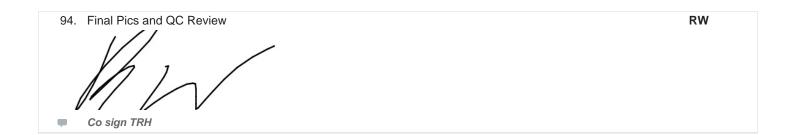
93. Document Final Condition with Pictures after paint













FolderID: 102711 FormID: 20193501

AC Recondition Repair Report

ARKANSAS INDUSTRIAL MACHINERY

MACHINERY 3804 N. NONA ST NORTH LITTLE ROCK, AR 72118

Shop

Priorities Found:

Gene		
		102711
1.	Job Number	
2.	Report Date	04/25/2024
3.	Customer	AIM
	Plate Information	
4.	Manufacturer	ABB
5.	Model	M3AA250SMB-2
6.	Serial Number	33V1211067435003
7.	Horsepower	HP
8.	KW	75 KW
9.	Volts	460 Volts
10.	Amps	111 Amps
	RPM	3581 RPM
12.	Frame	
-	Na	
13.	Enclosure	TEFC
14.	Cycles	60 HZ
15.	Phase	3 PH
16.	Service Factor	1.15
17.	Motor Mount Position	Horizontal
Initial	Inspection	
18.	Number of Leads	6
19.	Lead Length	Inches
20.	Lead Size	
21.	Lead Condition	
22.	Lead Markings	
23.	Lug Size, Condition, and Type	
24.	Winding RTD's	
25.	Winding Rtd's Condition	
26.	Shaft Run Out	
27.	Does Shaft Turn Freely	
	Does Shaft Have Visible Damage	
29.		
30.	Bearing Rtd's Condition	
	Contamination	

 33. Fan Condition 34. Broken or missing components Initial Electric Test 35. Resistance to Ground 36. Winding Resistance 1-2 37. Winding Resistance 1-3 38. Winding Resistance 1-3 39. Resistive Imbalance 40. HI-Pot 41. Surge Test 42. Stator Condition 43. Failure Location Initial Rotor Inspection 44. Rotor Type 45. Air Gap <10% Variation 46. Number of Broken Rotor Bars 47. Number of Broken Rotor Bars 48. Growler Test 49. Rotor Condition 41. Bearing DE Size 52. Bearing DE Type 53. DE Bearing Qty. 54. Bearing QDE Size 55. Bearing QUE Type 56. ODE Bearing Qty.
Initial Electric Test 35. Resistance to Ground 36. Winding Resistance 1-2 37. Winding Resistance 2-3 38. Winding Resistance 2-3 38. Winding Resistance 1-3 39. Resistive Imbalance 40. Hi-Pot 41. Surge Test 42. Stator Condition 43. Failure Location Initial Rotor Inspection 44. Rotor Type 45. Air Gap <10% Variation 46. Number of Rotor Bars 47. Number of Borken Rotor Bars 48. Growler Test 49. Rotor Condition 41. Surge Test 42. Stator Condition 43. Failure Location 44. Rotor Type 45. Air Gap <10% Variation 46. Number of Rotor Bars 47. Number of Borken Rotor Bars 48. Growler Test 49. Rotor Condition Mechanical Inspection 50. Bearing Manufacture 51. Bearing DE Size 52. Bearing DE Type 53. DE Bearing Qty. 54. Bearing ODE Size 55. Bearing ODE Type
 Resistance to Ground Winding Resistance 1-2 Winding Resistance 2-3 Winding Resistance 1-3 Resistive Imbalance Hi-Pot Surge Test Stator Condition Failure Location Failure Location Kotor Inspection Air Gap <10% Variation Number of Rotor Bars Number of Broken Rotor Bars Growler Test Rotor Condition Bearing Manufacture Bearing DE Size DE Bearing Qty. Bearing ODE Size Bearing ODE Size Bearing ODE Type
 36. Winding Resistance 1-2 37. Winding Resistance 2-3 38. Winding Resistance 1-3 39. Resistive Imbalance 40. Hi-Pot 41. Surge Test 42. Stator Condition 43. Failure Location 1011112 Rotor Inspection 44. Rotor Type 45. Air Gap < 10% Variation 46. Number of Rotor Bars 47. Number of Broken Rotor Bars 48. Growler Test 49. Rotor Condition 101 Expection 102 Experimentation 103 Ebearing Manufacture 50. Bearing Manufacture 51. Bearing DE Size 52. Bearing Qty. 54. Bearing ODE Type
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 38. Winding Resistance 1-3 39. Resistive Imbalance 40. Hi-Pot 41. Surge Test 42. Stator Condition 43. Failure Location Initial Rotor Inspection 44. Rotor Type 45. Air Gap <10% Variation 46. Number of Rotor Bars 47. Number of Broken Rotor Bars 48. Growler Test 49. Rotor Condition Mect-mical Inspection 50. Bearing Manufacture 51. Bearing DE Size 52. Bearing Qty. 54. Bearing Qty. 55. Bearing ODE Type
 39. Resistive Imbalance 40. Hi-Pot 41. Surge Test 42. Stator Condition 43. Failure Location Initial Rotor Inspection 44. Rotor Type 45. Air Gap <10% Variation 46. Number of Rotor Bars 47. Number of Broken Rotor Bars 48. Growler Test 49. Rotor Condition Mect-rical Inspection 50. Bearing Manufacture 51. Bearing DE Size 52. Bearing DE Type 53. DE Bearing Qty. 54. Bearing ODE Size 55. Bearing ODE Type
 40. Hi-Pot 41. Surge Test 42. Stator Condition 43. Failure Location Initial Rotor Inspection 44. Rotor Type 45. Air Gap <10% Variation 46. Number of Rotor Bars 47. Number of Broken Rotor Bars 48. Growler Test 49. Rotor Condition Mechanical Inspection 50. Bearing Manufacture 51. Bearing DE Size 52. Bearing DE Type 53. DE Bearing Qty. 54. Bearing ODE Size 55. Bearing ODE Type
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 45. Air Gap <10% Variation 46. Number of Rotor Bars 47. Number of Broken Rotor Bars 48. Growler Test 49. Rotor Condition Mechanical Inspection 50. Bearing Manufacture 51. Bearing DE Size 52. Bearing DE Type 53. DE Bearing Qty. 54. Bearing ODE Size 55. Bearing ODE Type
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54. Bearing ODE Size 55. Bearing ODE Type
55. Bearing ODE Type
56. ODE Bearing Qty.
57. Insulated Bearing
58. Lubrication Type
59. Grease Condition
60. Bearing Retainers
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62. DE Seal
63. DE Seal Type/Size
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65. ODE Seal Type/Size
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67. Cause of Failure
68. Comments
69. Service Technician
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71. Initial Shaft Run Out
72. Final Shaft Run Out
73. DE Bearing Shaft Fit
74. DE Initial Shaft Bearing Fit Size 1

	DE Initial Shaft Bearing Fit Size 2
76.	DE Initial Shaft Bearing Fit Size 3
77.	DE Finial Shaft Bearing Fit Size 1
78.	DE Finial Shaft Bearing Fit Size 2
79.	DE Finial Shaft Bearing Fit Size 3
80.	ODE Bearing Shaft Fit
81.	ODE Initial Shaft Bearing Fit Size 1
82.	ODE Initial Shaft Bearing Fit Size 2
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84.	ODE Finial Shaft Bearing Fit Size 1
	ODE Finial Shaft Bearing Fit Size 2
	ODE Finial Shaft Bearing Fit Size 3
	DE Air Seal Shaft Fit
88.	DE Initial Air Seal Shaft Size
89.	DE Final Air Seal Shaft Size
90.	ODE Air Seal Shaft Fit
	ODE Initial Air Seal Shaft Size
	ODE Final Air Seal Shaft Size
	DE Endbell Fit
	DE Initial Endbell Fit Size 1
	DE Initial Endbell Fit Size 2
	DE Initial Endbell Fit Size 3
	DE Final Endbell Fit Size 1
	DE Finial Endbell Fit Size 2
	DE Final Endbell Fit Size 3
	DE Endbell Fit Insulated
101.	DE Endbell Air Seal Fit
102.	Initial Endbell Air Seal Fit Size
103.	Finial Endbell Air Seal Fit Size
104.	ODE Endbell Fit
105.	ODE Initial Endbell Fit Size 1
	ODE Initial Endbell Fit Size 2
107.	ODE Initial Endbell Fit Size 3
108.	ODE Final Endbell Fit Size 1
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113.	ODE Initial Endbell Seal Fit Size
114.	ODE Finial Endbell Seal Fit Size
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116.	Foot Condition
117.	Flange Condition
	Service Technician
Balan	cing Report
	Balance Type
	Balance Operating Speed

121	Start Left End
	Start Right End
	Balancing Specification
	Finish Left End
	Finish Right End
	Service Technician
	nbly and Final Test
	Meggar Testing Reading
	Surge Test
	Hi-Pot
	Winding Resistance 1-2
	Winding Resistance 2-3
	Winding Resistance 1-3
	Test Run Voltage Phase A
	Test Run Amps A
	Test Run Voltage Phase B
	Test Run Amps B
	Test Run Voltage Phase C
	Test Run Amps C
	DE Horizontal Vibration Reading
	DE Vertical Vibration Reading
	DE Axial Vibration Reading
	ODE Horizontal Vibration Reading
	ODE Vertical Vibration Reading
	ODE Axial Vibration Reading
	Ambient Temp at start of Test Run
	Temp at 5 minutes
	Temp at 10 minutes
	Temp at 15 minutes
	Temp at 20 minutes
	Temp at 25 minutes
	Temp at 30 minutes
	Temp at 35 minutes
	Temp at 40 minutes
	Temp at 45 minutes
	Temp at 50 minutes
	Temp at 55 minutes
	Temp at 60 minutes
	Motor Paint
	Service Technician
159.	



STANDARD TERMS AND CONDITIONS FOR PURCHASE OF GOOD AND/OR SERVICES

- 1. <u>APPLICABILITY.</u> The sale of any and all goods and/or services by Mock, Inc. d/b/a Hi-Speed Industrial Service ("Hi-Speed") shall be specifically conditioned upon and subject to the following terms and conditions which are incorporated by reference into any contracts and purchase orders with Hi-Speed, and which shall form and become a part of any agreement related thereto. Buyer's acceptance of any offer or quotation made by Hi-Speed for sale of any goods or services is expressly made subject to the terms and conditions set forth herein and to be so effective, Buyer need not sign or approve these Terms and Conditions to be bound hereunder provided a copy of same is provided to Buyer through any means. None of the terms and conditions contained herein may be added to, expanded, changed, modified, superseded or otherwise altered except as revised in writing and duly executed by Hi-Speed, and all orders received by Hi-Speed shall be governed only by the terms and conditions contained herein, notwithstanding any terms, conditions or provisions of any purchase order, release order, authorization or any other form issued by the Buyer. Hi-Speed hereby objects to any additional, modified, changed, deleted, altered or other terms and conditions not contained herein and notifies Buyer that any such terms or provisions are expressly rejected by Hi-Speed.
- 2. PRICE. All quoted prices shall remain firm and binding for a period of thirty (30) days from the date of quotation or for the period specifically stated in the quotation. The price for any and all goods and/or services ordered or approved by Buyer after thirty (30) days from the date of any quotation are subject to any increase in price that may occur after the expiration of thirty (30) days from the issuance of the quotation and the date the Buyer releases any shipment.
- 3. <u>SCOPE OF GOODS AND/OR SERVICES.</u> The goods and/or services provided by Hi-Speed pursuant to any quotation shall be limited exclusively to those goods and/or services expressly identified therein. Hi-Speed does not assume any responsibility and/or liability for the failure to provide any other goods and/or services not identified in any quotation. Modifications, additions or deletions to or from the scope referenced in any quotation shall only be effective if evidenced in writing and signed by Hi-Speed. The sale of any of all goods and/or services affected by such modification, addition or deletion shall be subject to these same Standard Terms and Conditions whether or not referenced therein.
- 4. <u>BILLING AND PAYMENT TERMS.</u> Hi-Speed shall invoice Buyer for all goods and/or services as same are rendered at the address listed on the quotation. Payments for all goods and/or services shall be due thirty (30) days from the date of the current invoice or as otherwise set forth in the quotation. Late payments are subject to a late fee of 5% of the total invoice amount. Recurring late payments may lead to a deposit requirement on future services or sale of goods. Buyer shall be liable to Hi-Speed for any and all fees and expenses incurred by Hi-Speed to collect any invoices or to enforce these Standard Terms and Conditions, including but not limited to, attorney's fees.
- 5. DELIVERY OF GOODS AND/OR SERVICES. Unless otherwise identified in the quotation, all shipments are F.O.B. Hi-Speed's warehouse and the title to and all risk of loss with respect to any goods shipped shall pass to Buyer when such goods are delivered to the carrier at Hi-Speed's warehouse. Hi-Speed will use its best efforts to affect delivery by the date or dates specified in the quotation. However, Hi-Speed shall not be liable for delay in or failure to make shipment, or to perform services, by any identified date for any reason whatsoever, including but not limited to, causes beyond its reasonable control, such as strikes, fires, floods, epidemics, quarantines, restrictions, severe weather, embargos, acts of God, or public enemy, war, riot, delays in transportation or the inability to obtain necessary labor, materials or manufacturing facilities.
- 6. DELIVERY SITE AND TIME FOR PERFORMANCE. Hi-Speed and Buver agree that time is of the essence for the purchase order and that Buyer shall fully cooperate with Hi-Speed in order to allow Hi-Speed full access to prosecute its work diligently and in an orderly manner. Buyer shall assist Hi-Speed in every way possible to avoid delaying, disrupting or interfering with the progress of Hi-Speed's work at the project site. In the event Hi-Speed's work is delayed, hindered, suspended, disrupted, re-sequenced or interfered with or rendered less efficient or more costly or adversely affected in any way as a result of acts or omissions of Buyer or other contractors or employees of Buyer or by any other reason beyond Hi-Speed's control and without the fault of Hi-Speed, then, in such event, Buyer shall be liable to Hi-Speed for any damages, additional costs, expenses, labor, materials, man hours, acceleration costs, overtime, additional jobsite overhead, extended home office overhead, and any and all other direct and indirect expenses of whatsoever nature or kind, caused in whole or in part, as a result of any of the above-referenced occurrences. Hi-Speed's project records will be the basis for computing the additional costs and damages of Hi-Speed's labor, materials, expenses and overhead related to such changes. BUYER WARRANTS THAT THE SITE FOR DELIVERY OR INSTALLATION OF ANY GOODS AND/OR FOR THE PERFORMANCE OF ANY SERVICES SHALL BE READY AND ADEQUATE FOR HI-SPEED'S DELIVERY OF GOODS AND/OR PERFORMANCE OF SERVICES AND THAT HI-SPEED SHALL HAVE FULL ACCESS THERETO, FREE OF ALL OBSTRUCTIONS. BUYER SHALL ASSUME ALL EXTRA COSTS ASSOCIATED WITH HI-SPEED'S INABILITY TO INSTALL ANY GOODS OR PERFORM ANY SERVICES AS A RESULT OF BUYER'S FAILURE TO COMPLY WITH THIS PROVISION. HI-SPEED MAY NOT INSPECT THE SITE PRIOR TO DELIVERY AND/OR INSTALLATION OF GOODS AND/OR PERFORMANCE OF SERVICES AND MAKES NO WARRANTY AS TO THE SUFFICIENCY OF THE SITE FOR THE DELIVERY AND/OR INSTALLATION OF GOODS AND/OR THE PERFORMANCE OF SERVICES AT SUCH SITE.
- 7. INSPECTION/ACCEPTANCE. All goods and services ordered pursuant to any quotation shall be subject to inspection by Buyer after delivery or performance to determine conformity with the quotation and/or purchase order and Hi-Speed's advertised or published specifications. Buyer shall have a period of thirty (30) days from shipment of goods at the delivery destination specified in the quotation within which to inspect the goods for conformity with the quotation, order and/or Hi-Speed's advertised and published specifications and to provide Hi-Speed with written notice of any discrepancy or rejection. Buyer shall have a period of thirty (30) days following completion of any services within which to inspect the services for conformity with the quotation, purchase order and/or Hi-Speed's advertised and published specifications and to provide Hi-Speed with written notice of any discrepancy or rejection. If the goods delivered or services performed do not so conform, upon delivery of notice to Hi-Speed of any discrepancy, nonconformance or rejection, Hi-Speed shall have the right to reject such goods or services. After the cure period, goods that have been delivered and rejected, in whole or in part, shall be returned to Hi-Speed. Buyer shall notify Hi-Speed and arrange for the return of the goods as required. Should such non-conforming services be rejected Hi-Speed shall, at its sole cost, re-perform the non-conforming services. Inspection or failure to inspect on any occasion shall not affect Buyer's rights under the warranty provisions herein.
- 8. WARRANTIES. Hi-Speed warrants that all goods shall conform in all material aspects to the goods identified in the quotation to Buyer and/or purchase order, and Hi-Speed makes to Buyer the manufacturer's express warranty for any goods sold to Buyer, which is offered by the manufacturer at the time of acceptance of any quotation by Buyer. This warranty is conditioned upon the installation, operation, and maintenance of the goods in accordance with the manufacturer's recommendations and/or standard industry practice and the goods at all times being operated or used under normal operating conditions for which they were designed. Hi-Speed, at its sole option, will repair or

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replace any defective or non-conforming goods in accordance with the applicable manufacturer's warranty. Warranty for any defective or incorrect parts is limited to the repair or replacement of those parts. Hi-Speed warrants that all services will conform in all material respects to the description of services identified in the quotation and will be performed in a good and workmanlike manner in accordance with industry practices and standards. Should the services be reasonably rejected or not conform with the foregoing warranties, Hi-Speed shall, at its sole cost, re-perform the defective or nonconforming services. Notwithstanding the foregoing, these warranties do not extend to goods or services to the extent that such goods have been subject to misuse, neglect or abuse not caused by Hi-Speed or have been used in violation of the approved written instructions furnished to Buyer. THE FOREGOING REPRESENTS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY HI-SPEED WITH RESPECT TO ALL GOODS SOLD AND IS IN LIEU OF ALL OTHER WARRANTIES EITHER EXPRESS OR IMPLIED. HI-SPEED EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICLAR USE OR PURPOSE. BUYER WAIVES ANY CLAIM THAT THESE EXCLUSIONS OR LIMITATIONS DEPRIVE IT OF AN ADEQUATE REMEDY AT EQUITY OR LAW OR CAUSE THIS AGREEMENT TO FAIL IN ITS ESSENTIAL PURPOSE. BUYER SHALL BE ENTITLED TO NO OTHER REMEDY OTHER THAN AS SET FORTH HEREIN, REGARDLESS OF THE CLAIM OR CAUSE OF ACTION, WHETHER BASED IN CONTRACT, TORT, NEGLIGENCE, GOODS LIABILITY, STRICT LIABILITY OR OTHERWISE.

- 9. LIMITATION OF DAMAGES. HI-SPEED SHALL HAVE NO LIABILITY TO BUYER WITH RESPECT TO THE SALE OR DELIVERY OF ANY GOODS OR THE REPAIR THEREOF OR WITH RESPECT TO THE SALE OR PERFORMANCE OF ANY SERVICES, FOR LOST PROFITS, SPECIAL, CONSEQUENTIAL, EXEMPLARY, PUNITIVE OR INCIDENTAL DAMAGES OF ANY KIND OR NATURE WHETHER ARISING IN CONTRACT, TORT, GOODS LIABILITY OR OTHERWISE, EVEN IF HI-SPEED WAS ADVISED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGES. HI-SPEED SHALL NOT BE LIABLE FOR ANY DAMAGES OR DELAYS CAUSED BY ANY FAILURE TO MAKE ANY DELIVERY OF GOODS BY ANY EXPECTED TIME OR DATE OR THE FAILURE TO PROVIDE OR COMPLETE ANY SERVICES BY ANY EXPECTED DATE OR TIME. IN NO EVENT SHALL HI-SPEED BE LIABLE TO BUYER FOR ANY DAMAGES WHATSOEVER IN EXCESS OF THE TOTAL PRICE PAID FOR ALL GOODS AND/OR SERVICES HEREUNDER OR REFERENCED IN ANY QUOTATION OR THE PURCHASE ORDER.
- 10. <u>SEVERABILITY</u>. The partial or complete invalidity of any provision of these Standard Terms and Conditions shall not affect the enforceability of the remainder of these Standard Terms and Conditions. If any provision is found to be invalid or unenforceable, that portion shall be modified to make it enforceable or shall be stricken and the remainder of these Standard Terms and Conditions shall enforced.
- 11. <u>GOVERNING LAW AND JURISDICTION.</u> Any controversy arising out of any quotation, the purchase order, the goods sold or delivered, repair or replacement thereof, or any services provided pursuant to any quotation or any purchase order, or these Standard Terms and Conditions shall be governed by the laws of the state of Tennessee without regard to any choice of law provisions and any cause of action related in any manner thereto shall be brought only in the state or federal courts of Shelby County, Tennessee.
- 12. <u>ABANDONED EQUIPMENT.</u> Hi-Speed requires that Buyer promptly pick up or provide shipment instructions for Buyer equipment or other Buyer property in Hi-Speed's possession. If equipment or other Buyer property is left with Hi-Speed and not picked up within six (6) months after Hi-Speed's final action related to the applicable property (e.g. evaluation, teardown, estimate, completion of services), Hi-Speed will consider such property abandoned and may dispose of it in accordance with applicable law. Buyer agrees to hold Hi-Speed harmless for any damage or claim for such abandoned property and acknowledges that Hi-Speed may discard or recycle it at Hi-Speed's sole and absolute discretion. Specifically, Hi-Speed may sell Buyer's abandoned property at a private or public sale and retain the proceeds to offset Hi-Speed's storage, inspection and servicing costs. For the avoidance of doubt, Hi-Speed reserves its statutory and other lawful liens for unpaid charges related to abandoned property.
- 13. FORCE MAJEURE. Neither party shall be responsible for any delay or failure in performance of any party of the quotation, purchase order or these Standard Terms and Conditions to the extent that such delays or failures are caused by fire, flood, earth quake, explosion, war, embargo, government requirement, civil or military authority, acts of God, or any other circumstances beyond its reasonable control and not involving any fault or negligence on the party affected ("Condition"). If any such Condition occurs, the party delayed or unable to perform shall promptly give written notice to the other party and, if such Condition remains at the end of thirty (30) days, the party affected by the other party's delay and inability to perform may elect to (i) terminate such order or part thereof, or (ii) suspend the order for the duration of the Condition, if the Buyer is the suspending party, buy elsewhere comparable material to be sold under the order and apply to any commitment the purchase price of such purchase, and resume performance of the order once the Condition ceases, with an option in the affected party to extend the period of this order up to the length of the time the Condition endures.
- 14. <u>NONWAIVER</u>. No course of dealing or failure of either party to strictly enforce any term, right, or condition of these Standard Terms and Conditions will be construed as a waiver of such term, right or condition. Any waiver by Hi-Speed will only be in writing and will waive no succeeding breach of a term, right or condition.
- 15. <u>ASSIGNMENT.</u> The rights and obligations of the parties shall neither be assigned nor delegated without the prior written consent of the other party. However, any party may assign or delegate its respective rights and obligations, in whole or in part, (i) to any subsidiary, (ii) pursuant to other financing, merger or reorganization or (iii) pursuant to any sale or transfer of substantially all of the assets of the assigning party. These Standard Terms and Conditions shall bind the heirs, successors and assigns of the parties hereto.
- 16. <u>NO INDIVIDUAL LIABILITY</u>. Notwithstanding any other agreement to the contrary, the Buyer agrees that in no event will the Buyer hold and HI-Speed owner, director, officer or employee personally liable for unintentional tortious conduct or conduct that constitutes the breach of any contract between HI-Speed and the Buyer, even if the HI-Speed owner, director, officer or employee is or could be construed to be a party to such contract.