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— EVERY DAY SINCE 1946 —

LR Motor Shop Repairs

Job Number 103601

Prepared for Manitowoc (12775)

16013 W. Sardis Rd
Bauxite AR 72011

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

AC Inspection as Found

Manitowoc (12775)

16013 W. Sardis Rd
Bauxite, AR 72011

FolderID: 103601
FormID: 21832869

AC Inspection - Rev. 2

Location: LITTLE ROCK MOTOR SHOP

Serial Number: 04AG020151029315786

Description: 40HP INGERSOLL-RAND 1780RPM

Hi-Speed Job Number:	103601
Manufacturer:	Ingersoll-Rand
Product Number:	M: TO01F0X0N000030218230
Serial Number:	04AG020151029315786
HP/kW:	40 (HP)
RPM:	1780 (RPM)
Frame:	324T
Voltage:	230 / 460
Current:	100/50 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	ODP
# of Leads:	12
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	10/02/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

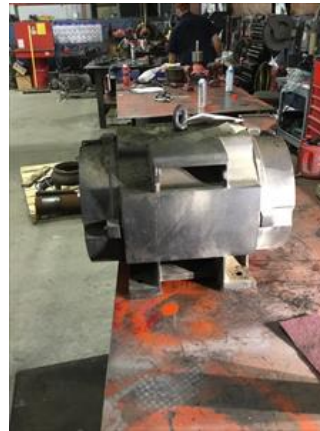
Priorities Found: ● 1 - High ● 9 - Good

Overall Condition

1. Report Date



10/04/2024

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[illegible]

Printed on 10/18/2024



4.	Describe the Overall Condition of the Equipment as Received	
	<i>Serviceable</i>	
5.	Report Date [COPY]	10/03/2024
Initial Mechanical/Electrical		
	6. Does Shaft Turn Freely?	(N) No
	7. Does the shaft require T.I.R in Lathe to identify additional repairs?	(No) No

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8. Does Shaft Have Visible Damage?

(No) No



9.	Assembled Shaft Runout	0.002 Inches	
10.	Assembled Shaft End Play	inches	
11.	Air Gap Variation <10%		
12.	Lead Condition	(P) Pass	
13.	Lead Length	9.5 Inches	
14.	Does it have Lugs?, If so what is the Stud Size?	(Yes) Yes	
15.	Lead Numbers	1-12	
16.	Frame Condition	rewind	
17.	Fan Condition		
18.	Broken or Missing Components	none	
Initial Electrical Inspection			
19.	Insulation Resistance/Megger	Megohms	
20.	Winding Resistance		
	1-2	1-3	2-3
21.	Perform Surge Test		
22.	Number of Stator Slots	48	
23.	Stator Condition	rewind	



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24. Stator Thermistors/Ohms

Yes ohms 210



25. Stator Overloads/Ohms

Mechanical Inspection	
26. Drive End Bearing Brand	NTN
27. Drive End Bearing Number-	6312 C3
28. Drive End Bearing Qty.	1
29. Drive End Bearing Type	(Ball) Ball Bearing
30. Drive End Lubrication Type	(Grease) Grease Lubricated
31. Drive End Bearing Insulation or Grounding Device?	none
32. Drive End Wavy Washer/Snap-Ring Other Retention Device?	none

33. Drive End Bearing Condition

replace



34. Opposite Drive End Bearing Brand

Brasil

35. Opposite Drive End Bearing Number-


6212 Z






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?	
40. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	Wavy washer
41. Opposite Drive End Bearing Condition	worn
42. Drive End Seal	
43. Opposite Drive End Seal	
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. List the Parts needed for the Repair Below	
49. Signature of Technician that Disassembled Motor	Terrence Holland
	

Mechanical Fits- Rotor	
50. Shaft Runout	0.02 inches

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51. Rotor Runout			
Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
52. Coupling Fit Closest to Bearing Housing			
0 Degrees	90 Degrees	120 Degrees	
53. Coupling Fit Closest to the end of the Shaft			
0 Degrees	60 Degrees	120 Degrees	
2.1246	2.1247	2.1248	
54. Drive End Bearing Shaft Fit			
0 Degrees	60 Degrees	120 Degrees	
2.3627	2.3627	2.3626	
55. Drive End Bearing Shaft Fit Condition			(P) Pass
56. Opposite Drive End Bearing Shaft Fit			
0 Degrees	60 Degrees	120 Degrees	
2.3628	2.3628	2.3628	
57. Opposite Drive End Bearing Shaft Fit Condition			(P) Pass
58. Shaft Air Seal Fits			
Drive End Air Seal	Opposite Drive End Air Seal		
Mechanical Fits- Bearing Housings			
59. Drive End - Endbell Bearing Fit			
0 Degrees	60 Degrees	120 Degrees	
5.1183	5.1182	5.1182	
60. Drive End - Endbell Bearing Fit Condition			(P) Pass
61. Opposite Drive End - Endbell Bearing Fit			
0 Degrees	60 Degrees	120 Degrees	
4.3307	4.3308	4.3307	
62. Opposite Drive End - Endbell Bearing Fit Condition			(P) Pass
63. Bearing Cap Condition			
Drive End Bearing Cap	Opposite Drive End Bearing Cap		
NA	NA		
64. End Bell Air Seal Fits			
Drive End Air Seal	Opposite Drive End Air Seal		
65. List Machine Work Needed Below			
None			
66. Technician			Terrence Holland
			
Root Cause of Failure			
67. Failure locations			
Windings / Bearings.			
68. Root cause of failure			
Windings shorted on coil head. Exact cause unknown. Also both bearings show grease contamination.			

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Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight

Balance Grade

0

0



70. Initial Balance Readings

Drive End

Opposite Drive End

2.02

1.84

71. Final Balance Readings

Drive End

Opposite Drive End

0.34

0.58

72. Technician

David Maclin

Rewind

73. Core Test Results - Watts loss per Pound

Pre-Burnout

Post Burnout

0

0

74. Core Hot Spot Test

Pre-Burnout

Post-Burnout

0

0

75. Post Rewind Electrical Test- Insulation Resistance

0 Megohms

76. Post Rewind Polarization Index

0 Polarization Index

77. Post Rewind Winding Resistance

1-2

1-3

2-3

0

0

0

78. Post Rewind Surge Test

(Pass) Pass

79. Post Rewind Hi-Pot

0 micro-amps

80. Technician

David Maclin

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Mechanical Fits- Rotor - Post Repair

81. Shaft Runout Post Repair	0 inches	
82. Rotor Runout Post Repair		
Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
0	0	0
83. Coupling Fit Closest to Bearing Housing Post Repair		
0 Degrees	90 Degrees	120 Degrees
0	0	0
84. Coupling Fit Closest to the end of the Shaft Post Repair		
0 Degrees	60 Degrees	120 Degrees
0	0	0
85. Drive End Bearing Shaft Fit Post Repair		
0 Degrees	60 Degrees	120 Degrees
0	0	0
86. Opposite Drive End Bearing Shaft Fit Post Repair		
0 Degrees	60 Degrees	120 Degrees
0	0	0
87. Shaft Air Seal Fits Post Repair		
Drive End Air Seal	Opposite Drive End Air Seal	
ok	ok	
88. Shaft Repair Sign-off	David Maclin	

**Mechanical Fits- Bearing Housings - Post Repair**

89. Drive End - Endbell Bearing Fit Post Repair		
0 Degrees	60 Degrees	120 Degrees
0	0	0
90. Opposite Drive End - Endbell Bearing Fit Post Repair		
0 Degrees	60 Degrees	120 Degrees
0	0	0
91. Bearing Cap Condition Post Repair		
Drive End Bearing Cap	Opposite Drive End Bearing Cap	
na	na	
92. End Bell Air Seal Fits Post Repair		
Drive End Air Seal	Opposite Drive End Air Seal	
ok	ok	
93. End Bell Repair Sign-off	David Maclin	

**Assembly**

94. QC Check All Parts for Cleanliness Prior to Assembly

David Maclin



95. Photograph All Major Components prior to assembly

(Complete) Complete



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1.10



96. Final Insulation Resistance Test	2000 Megohms	
97. Assembled Shaft Endplay	0 inches	
98. Assembled Shaft Runout	0 inches	
99. Test Run Voltage		
Volts	Volts	Volts
461	460	460



100. Test Run Amperage		
Amps	Amps	Amps
23.9	23.6	23.8
101. Drive End Vibration Readings - Inches Per Second		
Horizontal	Vertical	Axial
0.0645	0.0428	0.0209
102. Opposite Drive End Vibration Readings - Inches Per Second		
Horizontal	Vertical	Axial
0.0375	0.0369	0.0245
103. Ambient Temperature - Fahrenheit		70
104. Drive End Bearing Temps - Fahrenheit		
5 Minutes	10 Minutes	15 Minutes
70	0	0
105. Opposite Drive End Bearing Temps - Fahrenheit		
5 Minutes	10 Minutes	15 Minutes
70	0	0
106. Document Final Condition with Pictures after paint		looks good
107. Final Pics and QC Review		David Maclin
		
 Witnessed by Chris Wiley		





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

AC Random Coil Rewind Report

FolderID: 103601
FormID: 21940102

Manitowoc (12775)

16013 W. Sardis Rd
Bauxite, AR 72011

LITTLE ROCK MOTOR SHOP

Priorities Found: 1 - High 6 - Good

General

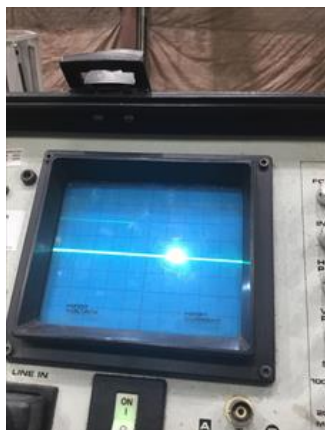
1. Job Number	103601
2. Report Date	10/13/2024
3. Customer	manitowoc

Stator Winding

4. Core Length	7.375 "
L end 2.875 ode 2.625	
5. Core ID	8 "
6. Back Iron Depth	1.125 "
7. Slot Depth	0.875 "
8. Tooth Width	0.25 "
9. Number of Vents	0
10. Vent Width	0 "
11. Before Burnout Core loss	(P) Pass
12. Flux Before Burnout	
13. Watts before burnout	
14. Watts loss per lb. before burnout	1.9 W/lbs.
15. After Burnout Core Loss	(P) Pass
16. Flux After burnout	
17. Watts After Burnout	
18. Watts loss per lb After Burnout	1.115 W/lbs.
19. Core Iron Condition	(P) Pass
20. RTD's	
21. RTD's Reading	
22. Motor Heaters	(N) No
23. Heater Qty.	0
24. Heater Voltage	
25. Heater Wattage	
26. Thermistors	(Y) Yes
27. Number of Poles	4
28. Slots	48
29. Number of Coils	36
30. Coil Weight	Lbs.
31. Lead Markings	1-12
32. Grouping	12of3

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33. Multiple Wires	(Y) Yes
34. Wire Size 5 #19 1290cm	
35. Turns per coil 1-8 1-10 1-12 14 13 28	
36. Pitch 1 to: 1-8-10-12	
37. Connection 2 Wye/Delta @460v 4 Wye/Delta @230v	
38. Lead Length	9 "
39. Lead Size	10
40. Number of Leads	12
41. Megger Reading After Rewind	
42. Coil Machine Slot	
43. Coil Machine Tip	
44. Coil Machine Pitch	
45. Hi Pot Reading After Rewind	Ua



46. Surge Pattern After Rewind	(P) Pass
47. Service Technician  48lbs #18 copper wire 20' #10 exar lead wire	

Original Polyphase AC Winding									
Electrical Nameplate Data									
Model	HP	Frame	HP	Volts	Amperes	Phase	Hz	Speed	Eff.
Model	10	30	10	208	10.0	3	60	1725	85
Volts	208	208	208	208	208	208	208	208	208
Amperes	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Phase	3	3	3	3	3	3	3	3	3
Hz	60	60	60	60	60	60	60	60	60
Speed	1725	1725	1725	1725	1725	1725	1725	1725	1725
Eff.	85	85	85	85	85	85	85	85	85
Notes	1. 208V 3-Phase 4-Wire 2. 10.0 HP 3. 1725 RPM 4. 85% Efficiency 5. 3-Phase 4-Wire 6. 208V 3-Phase 4-Wire 7. 10.0 HP 8. 1725 RPM 9. 85% Efficiency 10. 3-Phase 4-Wire 11. 208V 3-Phase 4-Wire 12. 10.0 HP 13. 1725 RPM 14. 85% Efficiency 15. 3-Phase 4-Wire 16. 208V 3-Phase 4-Wire 17. 10.0 HP 18. 1725 RPM 19. 85% Efficiency 20. 3-Phase 4-Wire 21. 208V 3-Phase 4-Wire 22. 10.0 HP 23. 1725 RPM 24. 85% Efficiency 25. 3-Phase 4-Wire 26. 208V 3-Phase 4-Wire 27. 10.0 HP 28. 1725 RPM 29. 85% Efficiency 30. 3-Phase 4-Wire 31. 208V 3-Phase 4-Wire 32. 10.0 HP 33. 1725 RPM 34. 85% Efficiency 35. 3-Phase 4-Wire 36. 208V 3-Phase 4-Wire 37. 10.0 HP 38. 1725 RPM 39. 85% Efficiency 40. 3-Phase 4-Wire 41. 208V 3-Phase 4-Wire 42. 10.0 HP 43. 1725 RPM 44. 85% Efficiency 45. 3-Phase 4-Wire 46. 208V 3-Phase 4-Wire 47. 10.0 HP 48. 1725 RPM 49. 85% Efficiency 50. 3-Phase 4-Wire 51. 208V 3-Phase 4-Wire 52. 10.0 HP 53. 1725 RPM 54. 85% Efficiency 55. 3-Phase 4-Wire 56. 208V 3-Phase 4-Wire 57. 10.0 HP 58. 1725 RPM 59. 85% Efficiency 60. 3-Phase 4-Wire 61. 208V 3-Phase 4-Wire 62. 10.0 HP 63. 1725 RPM 64. 85% Efficiency 65. 3-Phase 4-Wire 66. 208V 3-Phase 4-Wire 67. 10.0 HP 68. 1725 RPM 69. 85% Efficiency 70. 3-Phase 4-Wire 71. 208V 3-Phase 4-Wire 72. 10.0 HP 73. 1725 RPM 74. 85% Efficiency 75. 3-Phase 4-Wire 76. 208V 3-Phase 4-Wire 77. 10.0 HP 78. 1725 RPM 79. 85% Efficiency 80. 3-Phase 4-Wire 81. 208V 3-Phase 4-Wire 82. 10.0 HP 83. 1725 RPM 84. 85% Efficiency 85. 3-Phase 4-Wire 86. 208V 3-Phase 4-Wire 87. 10.0 HP 88. 1725 RPM 89. 85% Efficiency 90. 3-Phase 4-Wire 91. 208V 3-Phase 4-Wire 92. 10.0 HP 93. 1725 RPM 94. 85% Efficiency 95. 3-Phase 4-Wire 96. 208V 3-Phase 4-Wire 97. 10.0 HP 98. 1725 RPM 99. 85% Efficiency 100. 3-Phase 4-Wire 101. 208V 3-Phase 4-Wire 102. 10.0 HP 103. 1725 RPM 104. 85% Efficiency 105. 3-Phase 4-Wire 106. 208V 3-Phase 4-Wire 107. 10.0 HP 108. 1725 RPM 109. 85% Efficiency 110. 3-Phase 4-Wire 111. 208V 3-Phase 4-Wire 112. 10.0 HP 113. 1725 RPM 114. 85% Efficiency 115. 3-Phase 4-Wire 116. 208V 3-Phase 4-Wire 117. 10.0 HP 118. 1725 RPM 119. 85% Efficiency 120. 3-Phase 4-Wire 121. 208V 3-Phase 4-Wire 122. 10.0 HP 123. 1725 RPM 124. 85% Efficiency 125. 3-Phase 4-Wire 126. 208V 3-Phase 4-Wire 127. 10.0 HP 128. 1725 RPM 129. 85% Efficiency 130. 3-Phase 4-Wire 131. 208V 3-Phase 4-Wire 132. 10.0 HP 133. 1725 RPM 134. 85% Efficiency 135. 3-Phase 4-Wire 136. 208V 3-Phase 4-Wire 137. 10.0 HP 138. 1725 RPM 139. 85% Efficiency 140. 3-Phase 4-Wire 141. 208V 3-Phase 4-Wire 142. 10.0 HP 143. 1725 RPM 144. 85% Efficiency 145. 3-Phase 4-Wire 146. 208V 3-Phase 4-Wire 147. 10.0 HP 148. 1725 RPM 149. 85% Efficiency 150. 3-Phase 4-Wire 151. 208V 3-Phase 4-Wire 152. 10.0 HP 153. 1725 RPM 154. 85% Efficiency 155. 3-Phase 4-Wire 156. 208V 3-Phase 4-Wire 157. 10.0 HP 158. 1725 RPM 159. 85% Efficiency 160. 3-Phase 4-Wire 161. 208V 3-Phase 4-Wire 162. 10.0 HP 163. 1725 RPM 164. 85% Efficiency 165. 3-Phase 4-Wire 166. 208V 3-Phase 4-Wire 167. 10.0 HP 168. 1725 RPM 169. 85% Efficiency 170. 3-Phase 4-Wire 171. 208V 3-Phase 4-Wire 172. 10.0 HP 173. 1725 RPM 174. 85% Efficiency 175. 3-Phase 4-Wire 176. 208V 3-Phase 4-Wire 177. 10.0 HP 178. 1725 RPM 179. 85% Efficiency 180. 3-Phase 4-Wire 181. 208V 3-Phase 4-Wire 182. 10.0 HP 183. 1725 RPM 184. 85% Efficiency 185. 3-Phase 4-Wire 186. 208V 3-Phase 4-Wire 187. 10.0 HP 188. 1725 RPM 189. 85% Efficiency 190. 3-Phase 4-Wire 191. 208V 3-Phase 4-Wire 192. 10.0 HP 193. 1725 RPM 194. 85% Efficiency 195. 3-Phase 4-Wire 196. 208V 3-Phase 4-Wire 197. 10.0 HP 198. 1725 RPM 199. 85% Efficiency 200. 3-Phase 4-Wire 201. 208V 3-Phase 4-Wire 202. 10.0 HP 203. 1725 RPM 2								



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

1. **APPLICABILITY.** 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. **SCOPE OF GOODS AND/OR SERVICES.** 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. **BILLING AND PAYMENT TERMS.** 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 Buyer 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 sixty (60) days to cure the alleged discrepancy and/or nonconformance. If Hi-Speed fails to cure in this time period, Buyer 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

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 PARTICULAR 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. **SEVERABILITY.** 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. **GOVERNING LAW AND JURISDICTION.** 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. **ABANDONED EQUIPMENT.** 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, earthquake, 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. **NONWAIVER.** 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. **ASSIGNMENT.** 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. **NO INDIVIDUAL LIABILITY.** 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.