

# EVERY DAY SINCE 1946

LR Motor Shop Repairs

## Job Number 104011

Prepared for DELTA PLASTICS OF THE SOUTH

3104 SOUTH MAIN STREET STUTTGART AR 72160

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AC Inspection as Found - LR MOTOR SHOP

AC Inspection - Rev. 2: N-D01400498020001/2013



FolderID: 104011

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#### **AC Inspection as Found**

DELTA PLASTICS OF THE SOUTH 3104 SOUTH MAIN STREET

STUTTGART, AR 72160

AC Inspection	- Rev. 2
Location:	LR MOTOR SHOP
Serial Number:	N-D01400498020001/2013

Description:536 HP SIEMANS

Hi-Speed Job Number:	104011
Manufacturer:	Siemens
Product Number:	1LA8355-4PB90-Z
Serial Number:	N-D01400498020001/2013
HP/kW:	536 (HP)
RPM:	1790 (RPM)
Frame:	1LA8 355-4PB90-Z
Voltage:	460
Current:	610 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.0
Enclosure:	TEFC
# of Leads:	12
J-box Included:	Half
Coupling/Sheave:	None
Date Received:	01/30/2025
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: 🛑 5 - High

🔵 6 - Good

#### **Overall Condition**

1. Report Date

01/29/2025

#### 2. Nameplate Picture



3. Photos of all six sides of the machine.











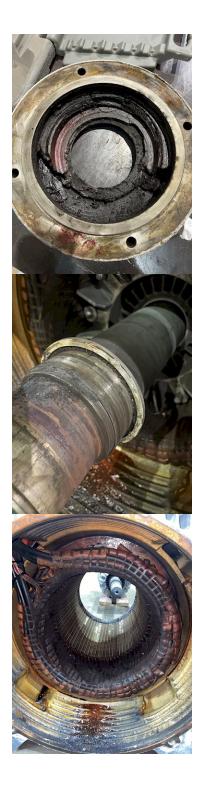






















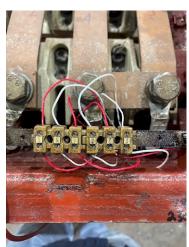




and the second	COLUMN TWO IS		
	4.	Describe the Overall Condition of the Equipment as Received	
		Drive end bearing failed due to lack of lubrication. Internal fan moved back on the shaft about 1/2 inch and started to rub the endbell. There are aluminum shavings in the windings. The aegis ring was glued on and came off of the bearing cap.	
In	itial	Mechanical/Electrical	
	5.	Does Shaft Turn Freely?	(N) No
	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	(Yes) Yes
	7.	Does Shaft Have Visible Damage?	(No) No

<ul> <li>Assembled Shaft Runout</li> <li>Na</li> <li>Assembled Shaft End Play</li> <li>Assembled Shaft End Play</li> <li>Na</li> <li>10. Air Gap Variation &lt;10%</li> <li>Na</li> <li>11. Lead Condition</li> <li>(P) Pass</li> <li>12. Lead Length</li> <li>30 Inches</li> <li>13. Does it have Lugs?, If so what is the Stud Size?</li> <li>Same as wire</li> <li>14. Lead Numbers</li> <li>U1,V1,W1 U2,V2,W2</li> <li>15. Frame Condition</li> <li>(F) Fail</li> <li>Internal fail, external pass</li> <li>16. Fan Condition</li> <li>(F) Fail</li> <li>Internal fail, external pass</li> <li>17. Broken or Missing Components</li> <li>Internal fail, external pass</li> <li>18. Insulation Resistance/Megger</li> <li>2000 Megohms</li> <li>19. Winding Resistance</li> <li>1-2</li> <li>1-3</li> <li>2-3</li> <li>.574</li> <li>.0582</li> <li>.0561</li> <li>3.7% difference</li> <li>(P) Pass</li> <li>21. Number of Stator Slots</li> <li>72</li> <li>22. Stator Condition</li> <li>(P) Pass</li> <li>23. Stator Thermistors/Ohms</li> </ul>				
<ul> <li>Assembled Shaft End Play</li> <li>Na</li> <li>Air Gap Variation &lt;10%</li> <li>Na</li> <li>Air Gap Variation &lt;10%</li> <li>Na</li> <li>Lead Condition</li> <li>Lead Length</li> <li>So bes it have Lugs?, If so what is the Stud Size?</li> <li>Same as wire</li> <li>Lead Numbers</li> <li>U1,V1,W1 U2,V2,W2</li> <li>Same as wire</li> <li>Lead Numbers</li> <li>U1,V1,W1 U2,V2,W2</li> <li>Frame Condition</li> <li>Frame Condition</li> <li>Frame Condition</li> <li>Internal fail, external pass</li> <li>Internal fail, external pass</li> <li>Insulation Resistance/Megger</li> <li>So Same as wire</li> <li>Vinding Resistance</li> <li>1-2</li> <li>1-3</li> <li>2-3</li> <li>3.7% difference</li> <li>Perform Surge Test</li> <li>(P) Pass</li> <li>Number of Stator Slots</li> <li>Tzest good but has debris windings</li> </ul>	8.	Assembled Shaft Runout		Inches
<ul> <li>Na</li> <li>Air Gap Variation &lt;10%</li> <li>Na</li> <li>Lead Condition</li> <li>Lead Condition</li> <li>Lead Length</li> <li>30 Inches</li> <li>Does it have Lugs?, If so what is the Stud Size?</li> <li>Same as wire</li> <li>Lead Numbers</li> <li>U1,V1,W1 U2,V2,W2</li> <li>Same as wire</li> <li>U1,V1,W1 U2,V2,W2</li> <li>Frame Condition</li> <li>Frame Condition</li> <li>Frame Condition</li> <li>Recondition</li> <li>Recondition</li> <li>Internal fail, external pass</li> <li>Internal fail, external pass</li> <li>Insulation Resistance/Megger</li> <li>Soro A</li> <li>Minding Resistance</li> <li>Minding Resistance</li> <li>Soro A</li> <li>Soro A</li></ul>				
10. Air Gap Variation <10%	9.	Assembled Shaft End Play		inches
<ul> <li>Na</li> <li>Lead Condition</li> <li>(P) Pass</li> <li>Lead Length</li> <li>30 Inchess</li> <li>Does it have Lugs?, If so what is the Stud Size?</li> <li>Same as wire</li> <li>Lead Numbers</li> <li>Same as wire</li> <li>Lead Numbers</li> <li>U1,V1,W1 U2,V2,W2</li> <li>Frame Condition</li> <li>Frame Cond</li></ul>		Na		
11.       Lead Condition       (P) Pass         12.       Lead Length       30 Inchess         13.       Does it have Lugs?, If so what is the Stud Size?       (Yes) Yes         13.       Does it have Lugs?, If so what is the Stud Size?       (Yes) Yes         14.       Lead Numbers       U1,V1,W1 U2,V2,W2         15.       Frame Condition       Pass         16.       Fan Condition       (F) Fail         Internal fail, external pass       (P) Pass         17.       Broken or Missing Components Internal fan rubbed endbell       (F) Fail         Number of Staton Resistance/Megger       2000 Megohms         18.       Insulation Resistance/Megger       2000 Megohms         19.       Vinding Resistance       (P) Pass         10.       Jo574       Jo582       Jo561         17.       Perform Surge Test       (P) Pass         20.       Perform Surge Test       (P) Pass         21.       Number of Stator Slots       72         22.       Stator Condition       Tests good but has debris in windings	10.	Air Gap Variation <10%		
12. Lead Length       30 Inches         13. Does it have Lugs?, If so what is the Stud Size?       (Yes) Yes         5. Same as wire       U1,V1,W1 U2,V2,W2         14. Lead Numbers       U1,V1,W1 U2,V2,W2         15. Frame Condition       Pass         16. Fan Condition       (F) Fail         Internal fail, external pass       (F) Fail         Internal fail, external pass       (F) Fail         Internal fail rubbed endbell       (F) Fail         Internal fan rubbed endbell       2000 Megohms         18. Insulation Resistance/Megger       2000 Megohms         19. Winding Resistance       1-2         1-2       1-3       2-3         .0574       .0582       .0561         3.7% difference       (P) Pass         21. Number of Stator Slots       72         22. Stator Condition       Tests good but has debris in windings		Na		
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14. Lead Numbers       U1,V1,W1 U2,V2,W2         15. Frame Condition       Pass         16. Fan Condition       (F) Fail         Internal fail, external pass       (F) Fail         Internal fail pass       (F) Fail         Internal fail, external pass       (F) Fail         Internal fail, external pass       (F) Fail         Internal fail pass       (F) Fail         Internal fail, external pass       2000 Megohms         Internal fail pass       1-3       2-3         19. Winding Resistance       .0582       .0561         3.7% difference       .0582       .0561         20. Perform Surge Test       (P) Pass         21. Number of Stator Slots       72         22. Stator Condition       Tests good but has debris in windings	<b>)</b> 13.	Does it have Lugs?, If so what is	the Stud Size?	(Yes) Yes
15.       Frame Condition       Pass         16.       Fan Condition       (F) Fail         Internal fail, external pass       Internal fail, external pass         17.       Broken or Missing Components Internal fan rubbed endbell       Internal fan rubbed endbell <b>10 10 11</b> Insulation Resistance/Megger         18.       Insulation Resistance         19.       Winding Resistance         19.       Vinding Resistance         19.       Jo574       .0582         .0574       .0582       .0561         3.7% difference       (P) Pass         20.       Perform Surge Test       (P) Pass         21.       Number of Stator Slots       72         22.       Stator Condition       Tests good but has debris in windings		Same as wire		
16.       Fan Condition       (F) Fail         Internal fail, external pass       (F) Fail         17.       Broken or Missing Components       Internal fail, external pass         Internal fan rubbed endbell       Internal fan rubbed endbell         NITIEL ELECTRICAL Inspection         18.       Insulation Resistance/Megger       2000 Megohms         19.       Winding Resistance       2-3         19.       Vinding Resistance       .0582         19.       .0574       .0582         19.       .0574       .0582         19.       .0574       .0582         10.       .0574       .0561         17.       Perform Surge Test       (P) Pass         19.       Number of Stator Slots       .72         10.       Stator Condition       Tests good but has debris in windings	14.	Lead Numbers		U1,V1,W1 U2,V2,W2
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17. Broken or Missing Components Internal fan rubbed endbell         Internal fan rubbed endbell	16.	Fan Condition		(F) Fail
Internal fan rubbed endbellInternal fan rubbed endbellInter		Internal fail, external pass		
Initial Electrical Inspection         18.       Insulation Resistance/Megger       2000 Megohms         19.       Winding Resistance       2-3         1-2       1-3       2-3         .0574       .0582       .0561         3.7% difference       (P) Pass         20.       Perform Surge Test       (P) Pass         21.       Number of Stator Slots       72         22.       Stator Condition       Tests good but has debris in windings	17.	Broken or Missing Components		
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19. Winding Resistance1-21-32-3.0574.05823.7% difference20. Perform Surge Test(P) Pass21. Number of Stator Slots7222. Stator ConditionTests good but has debris in windings	Initial	Electrical Inspection		
1-21-32-3.0574.0582.05613.7% difference.056120.Perform Surge Test(P) Pass21.Number of Stator Slots7222.Stator ConditionTests good but has debris in windings	18.	Insulation Resistance/Megger		2000 Megohms
.0574.0582.05613.7% difference(P) Pass20.Perform Surge Test(P) Pass21.Number of Stator Slots7222.Stator ConditionTests good but has debris in windings	19.	Winding Resistance		
3.7% difference         20. Perform Surge Test       (P) Pass         21. Number of Stator Slots       72         22. Stator Condition       Tests good but has debris in windings		1-2	1-3	2-3
20. Perform Surge Test(P) Pass21. Number of Stator Slots7222. Stator ConditionTests good but has debris in windings		.0574	.0582	.0561
21. Number of Stator Slots     72       22. Stator Condition     Tests good but has debris in windings		3.7% difference		
22. Stator Condition Tests good but has debris in windings	20.	Perform Surge Test		(P) Pass
windings	21.	Number of Stator Slots		72
23. Stator Thermistors/Ohms thermistors	22.	Stator Condition		
	23.	Stator Thermistors/Ohms		thermistors





and the second second		
24.	Stator Overloads/Ohms	na
Mech	anical Inspection	
25.	Drive End Bearing Brand	koyo
26.	Drive End Bearing Number-	NU322R
27.	Drive End Bearing Qty.	1
28.	Drive End Bearing Type	(Roller) Roller Bearing
29.	Drive End Lubrication Type	(Grease) Grease Lubricated
30.	Drive End Bearing Insulation or Grounding Device?	Yes but came off

31	Drive End Wavy Washer/Snap-Ring	Other Retention Device?	snap ring
32.	Drive End Bearing Condition	Other Retention Device:	Fail
52.	Lack of lubrication		Fall
F			540
33.	Opposite Drive End Bearing Brand	FAG	
34.		۲ <b>-</b>	6220-J20AA-C3
-	Ceramic coated outer race		
35.	Opposite Drive End Bearing Qty.		1
36.	Opposite Drive End Bearing Type		(Ball) Ball Bearing
37.	Opposite Drive End Lubrication Typ	e	(Grease) Grease Lubricated
38.	Opposite Drive End Bearing Insulation	on or Grounding Device?	ceramic coated
39.	Opposite Drive End Wavy Washer/S	Snap-Ring Other Retention Device?	snap ring
40.	Opposite Drive End Bearing Conditi	on	worn
41.	Drive End Seal		none
42.	Opposite Drive End Seal		none
Rotor	Inspection		
43.	Rotor Type/Material		(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast
44.	Growler Test		(Pass) Pass
45.	Number of Rotor Bars		52
46.	Rotor Condition		Pass
	Nu322r 6220-j20aa-c3 Internal fan or fix the one it came with Possibly rewind due to contamination Aegis ring		
40.	Signature of Technician that Disass		Trevor Hall
Moch	anical Fits- Rotor		
	Shaft Runout		0.001 inches
	Both ends		0.001 menes
50.	Rotor Runout		-
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	0.1		
51.	Coupling Fit Closest to Bearing Hou	ising	
	0 Degrees	90 Degrees	120 Degrees
	3.9377	3.9378	3.9377
52.	Coupling Fit Closest to the end of th	e Shaft	
	0 Degrees	60 Degrees	120 Degrees
	3.937	3.9372	3.9368
53.	Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	4.3312	4.3311	4.3309
-	Undersized		

● 54. ●	Drive End Bearing Shaft Fit Condition Undersized			(F) Fail
55.	Opposite Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	3.9377	3.9377	3.9376	
56.	Opposite Drive End Bearing Shaft Fit	Condition		(P) Pass
57.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
	good	good		
Mecha	anical Fits- Bearing Housings			
58.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	9.449199999999999	9.449199999999999	9.4491999999999999	
59.	Drive End - Endbell Bearing Fit Condition	ion		(P) Pass
60.	Opposite Drive End - Endbell Bearing	Fit		
	0 Degrees	60 Degrees	120 Degrees	
	7.087	7.0866	7.0868	
61.	Opposite Drive End - Endbell Bearing	Fit Condition		(P) Pass
62.	Bearing Cap Condition			
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
	fail	pass		
	Drive end rubbed			
63.	End Bell Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
	fail	pass		
	Rubbed drive end			
64.	List Machine Work Needed Below			
	Both drive end bearing caps were rubbe Drive end bearing shaft fit is undersized			
65.	Technician		т	revor Hall
	$\Lambda 1/1$			
_				
/				
Root (	Cause of Failure			
66.	Failure locations			
	Bearings Internal fan Aegis ring Possibly windings due to contamination	1		
67.	Root cause of failure	-		
5	Fan moved on shaft, aegis ring fell off, l	ack of lubrication on the drive end.		

	Rotor Weight and Balance Grade		
	Rotor Weight	Balance Grade	
	<section-header><text></text></section-header>		
69.	Ũ		
	Drive End	Opposite Drive End	
70	6.01	1.26	
70.	Final Balance Readings		
	Drive End	Opposite Drive End	
	0.46	0.37	
0.	Technician		RW
echa	anical Fits- Rotor - Post Repai	r	
72.	Shaft Runout Post Repair		0.0005 inches
73.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	0.001	0.001	0.002
74.	Coupling Fit Closest to Bearing Ho	ousing Post Repair	
	0 Degrees	90 Degrees	120 Degrees
75.	Coupling Fit Closest to the end of	the Shaft Post Repair	

0 Degrees 00 Degrees	 Drive End Bearing Shaft Fit Post Repa	
4.332 4.332	0 Degrees	60 Degrees

120 Degrees 4.332





Sleeved bearing inner bearing cap. Clearance- .030"

77.	Opposite Drive End Bearing Shaft Fit	Post Repair	
	0 Degrees	60 Degrees	120 Degrees
78.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
<ul> <li>Internal fan shaft surface welded and turned to 4.8315.</li> <li>Internal Fan bored to 4.8285.</li> <li>Snap ring installed to prevent fan from moving on the shaft.</li> </ul>			
		-11	



79. Shaft Repair Sign-off

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Assembly

Gary

81. Photograph All Major Components prior to assembly













#### (Complete) Complete



82. Final Insulation Resistance Test



16,940 Megohms



83.	Assembled Shaft Endplay			0 inches
84.	Assembled Shaft Runout			0 inches
85.	Test Run Voltage			
	Volts	Volts	Volts	
	456	455	459	



Co sign DM

86. Test Run Amperage			
Amps	Amps	Amps	



87.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.04	0.04	0.05
88.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.05	0.0700000000000001	0.01
89.	Ambient Temperature - Fahrenheit		
90.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
91.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
92.	Document Final Condition with Pictures after paint		







93. Final Pics and QC Review Co sign DM Щ.

RW



#### 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.