

LR Motor Shop Repairs

Job Number 101651

Prepared for Remington (10243)

2592 AR Hwy 15 N Lonoke AR 72086

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AC Inspection as Found - MOTOR SHOP LR

AC Inspection - Rev. 2

1.0



FolderID: 101651

FormID: 17424052



AC Inspection as Found

Remington (10243)

2592 AR Hwy 15 N Lonoke, AR 72086

AC Inspection - Rev. 2

Location:

MOTOR SHOP LR

Serial Number:

Description: 450 HP LOUIS ALLIS

Hi-Speed Job Number:	101651
Manufacturer:	Louis Allis
Serial Number:	9269297001
HP/kW:	450 (HP)
RPM:	3580 (RPM)
Frame:	508US
Voltage:	2300
Current:	97.2
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.25
Enclosure:	ODP
# of Leads:	3
J-box Included:	None
Coupling/Sheave:	None
Date Received:	07/25/2023
Repair Stage:	Final

Priorities Found: 6 - High





6 - Good

Overall Condition

- Report Date
- Nameplate Picture



Photos of all six sides of the machine.

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	4.	Describe the Overall Condition of the	Equipment as Received		
		Dirty			
In	itial	Mechanical/Electrical			
	5.	Does Shaft Turn Freely?		(No) No	
	6.	Does Shaft Have Visible Damage?		(No) No	
	7.	Assembled Shaft Runout			
	8.	Assembled Shaft End Play			
	9.	Air Gap Variation <10%			
	10.	Lead Condition		(P) Pass	
	11.	Lead Length		14 Inches	
	12.	Lead Numbers		1-3	
	13.	Stator Temperature Detector Rating a	nd Function		
		Quantity	Rating	Quantity Passed	
	-	Na			
	14.	Bearing Temperature Detector Rating	and Function		
		Quantity	Rating	Quantity Passed	
	-	Na			
	15.	Frame Condition		pass	
	16.	Fan Condition		(N) NA	

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17.	Heater Quantity, Ratings			
	Quantity	Volts/Watts	Pass/Fail	
	•			
-	Na			
18.	Broken or Missing Components		j-	box
Initial	Electrical Inspection			
19.	Insulation Resistance/Megger		Mego	hms
20.	Winding Resistance			
	1-2	1-3	2-3	
2 1.	Perform Surge Test		(P) F	Pass



22.	Number of Stator Slots	
23.	Stator Condition	pass
24.	Stator Thermistors/Ohms	na
25.	Stator Overloads/Ohms	na
Mech	anical Inspection	
26.	Drive End Bearing Brand	sleeved bearings
27.	Drive End Bearing Number-	
28.	Drive End Bearing Qty.	1
29.	Drive End Bearing Type	(Other) Other
-	Sleeved	
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?	na
33.	Drive End Bearing Condition	excessive wear
34.	Opposite Drive End Bearing Brand	sleeved
35.	Opposite Drive End Bearing Number-	
36.	Opposite Drive End Bearing Qty.	1
37.	Opposite Drive End Bearing Type	(Other) Other
-	Sleeved	
38.	Opposite Drive End Lubrication Type	(Oil) Oil Lubricated
39.	Opposite Drive End Bearing Insulation or Grounding Device?	insulated
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	na
41.	Opposite Drive End Bearing Condition	little wear

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42.	Drive End Seal Lip seal		3.7750-4.3730-0.2450
43.	Opposite Drive End Seal Lip seal		3.7750-4.3730-0.2450
44.	DE Sleeve Bearing Inside Diameter		
	0 degrees	120 degrees	240 degrees
	2.7558	2.7535	2.7535
-	Bad		
45.	DE Sleeve Bearing Outside Diameter		
	0 degrees	120 degrees	240 degrees
46.	DE Sleeve Bearing Housing Inside Di	ameter	
	0 degrees	120 degrees	240 degrees
47.	DE Sleeve Bearing to Housing Cleara		
	0 degrees	120 degrees	240 degrees
48.	ODE Sleeve Bearing Inside Diameter		
	0 degrees	120 degrees	240 degrees
	2.7515	2.7542	2.7553
49.	ODE Sleeve Bearing Outside Diamete		
	0 degrees	120 degrees	240 degrees
50.	ODE Sleeve Bearing Housing Inside I	Diameter	
	0 degrees	120 degrees	240 degrees
51	ODE Sleeve Bearing to Housing Clea	rance	
•	0 degrees	120 degrees	240 degrees
	o degrees	120 dog1000	2 10 4091000
Rotor	Inspection		
	Rotor Type/Material		(Copper Barred) Copper Barred Rotor
53.	Growler Test		(Pass) Pass
54.	Number of Rotor Bars		
55.	Rotor Condition		pass
56.	List the Parts needed for the Repair B	elow	
	DE bearing		
57.	Signature of Technician that Disasser	nbled Motor	Cw
Mecha	anical Fits- Rotor		
58.	Shaft Runout		
59.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	, and the second		

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60	Coupling Fit Closest to Bearing Housi	na		
00.	0 Degrees	90 Degrees	120 Degrees	
	0 Degrees	30 Degrees	120 Degrees	
61.	Coupling Fit Closest to the end of the	Shaft		
	0 Degrees	60 Degrees	120 Degrees	
	9	ŭ	3	
62.	Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	2.7485	2.7483	2.7479	
63.	Drive End Bearing Shaft Fit Condition			(P) Pass
64.	Opposite Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	2.7484	2.7484	2.7484	
65.	Opposite Drive End Bearing Shaft Fit	Condition		(P) Pass
66.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
Mech	anical Fits- Bearing Housings			
67.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	2.7558	2.7535	2.7535	
68.	Drive End - Endbell Bearing Fit Condi	tion		(F) Fail
69	Opposite Drive End - Endbell Bearing	Fit		
00.	-11			
00.	0 Degrees	60 Degrees	120 Degrees	
00.	·· · · · · · · · · · · · · · · · · · ·		120 Degrees 2.7553	
	0 Degrees	60 Degrees 2.7542	-	(P) Pass
70.	0 Degrees 2.7515	60 Degrees 2.7542	-	(P) Pass
70.	0 Degrees 2.7515 Opposite Drive End - Endbell Bearing	60 Degrees 2.7542	-	(P) Pass
70.71.	0 Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap	60 Degrees 2.7542 Fit Condition	-	(P) Pass
70.71.	0 Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	(P) Pass
70.71.	0 Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap	60 Degrees 2.7542 Fit Condition	-	(P) Pass
70.71.72.	0 Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	(P) Pass
70.71.	0 Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	(P) Pass
70.71.72.73.	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	
70.71.72.73.	0 Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	(P) Pass
70.71.72.73.	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	
70.71.72.73.	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	
70.71.72.73.	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	
70.71.72.73.74.	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing Technician	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	
70.71.72.73.74.	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing Technician Technician	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	
70.71.72.73.74.	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing Technician mic Balance Report Rotor Weight and Balance Grade	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap Opposite Drive End Air Seal	-	
70.71.72.73.74.	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing Technician Technician	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap	-	
 70. 71. 72. 73. 74. Dynar 75. 	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing Technician mic Balance Report Rotor Weight and Balance Grade Rotor Weight	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap Opposite Drive End Air Seal	-	
70.71.72.73.74.	O Degrees 2.7515 Opposite Drive End - Endbell Bearing Bearing Cap Condition Drive End Bearing Cap End Bell Air Seal Fits Drive End Air Seal List Machine Work Needed Below DE bearing Technician mic Balance Report Rotor Weight and Balance Grade	60 Degrees 2.7542 Fit Condition Opposite Drive End Bearing Cap Opposite Drive End Air Seal	-	

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77.	Final Balance Readings		
	Drive End	Opposite Drive End	
	Technician		
Rewir			
79.	Core Test Results - Watts loss per Po		
	Pre-Burnout	Post Burnout	
80.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
0.1	Post Rewind Electrical Test- Insulation	n Denistance	
		II Resistance	
	Post Rewind Polarization Index		
83.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
QΛ	Post Rewind Surge Test		
	Post Rewind Surge Test Post Rewind Hi-Pot		
	Technician		
	Cause of Failure		
87.	Failure locations		
	Significant wear on DE bearing		
88.	Root cause of failure		
	Wear scaring and contamination		
	anical Fits- Rotor - Post Repair		
	anical Fits- Rotor - Post Repair Shaft Runout Post Repair		
89.	·		
89.	Shaft Runout Post Repair	Rotor Body	Opposite Drive End Bearing
89. 90.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit	·	Opposite Drive End Bearing
89. 90.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing House	ing Post Repair	
89. 90.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit	·	Opposite Drive End Bearing 120 Degrees
89. 90. 91.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees	ing Post Repair 90 Degrees	•
89. 90. 91.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the	ing Post Repair 90 Degrees Shaft Post Repair	120 Degrees
89. 90. 91.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees	ing Post Repair 90 Degrees	•
89. 90. 91.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees	120 Degrees
89. 90. 91.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees	120 Degrees 120 Degrees
89. 90. 91.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees	120 Degrees
91. 92. 93.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees	120 Degrees 120 Degrees
91. 92. 93.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees Opposite Drive End Bearing Shaft Fit	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees Post Repair	120 Degrees 120 Degrees 120 Degrees
91. 92. 93.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees	120 Degrees 120 Degrees
99. 91. 92. 93.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees Opposite Drive End Bearing Shaft Fit 0 Degrees	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees Post Repair	120 Degrees 120 Degrees 120 Degrees
99. 91. 92. 93.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees Opposite Drive End Bearing Shaft Fit 0 Degrees Shaft Air Seal Fits Post Repair	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees Post Repair 60 Degrees	120 Degrees 120 Degrees 120 Degrees
99. 91. 92. 93.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees Opposite Drive End Bearing Shaft Fit 0 Degrees	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees Post Repair	120 Degrees 120 Degrees 120 Degrees
99. 91. 92. 93. 94.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees Opposite Drive End Bearing Shaft Fit 0 Degrees Shaft Air Seal Fits Post Repair	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees Post Repair 60 Degrees	120 Degrees 120 Degrees 120 Degrees
99. 91. 92. 93. 94. 95.	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees Opposite Drive End Bearing Shaft Fit 0 Degrees Shaft Air Seal Fits Post Repair Drive End Air Seal	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees Post Repair 60 Degrees Opposite Drive End Air Seal	120 Degrees 120 Degrees 120 Degrees
99. 91. 92. 93. 94. 95. Mecha	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees Opposite Drive End Bearing Shaft Fit 0 Degrees Shaft Air Seal Fits Post Repair Drive End Air Seal Shaft Repair Sign-off	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees Post Repair 60 Degrees Opposite Drive End Air Seal	120 Degrees 120 Degrees 120 Degrees
99. 91. 92. 93. 94. 95. Mecha	Shaft Runout Post Repair Rotor Runout Post Repair Drive End Bearing Fit Coupling Fit Closest to Bearing Hous 0 Degrees Coupling Fit Closest to the end of the 0 Degrees Drive End Bearing Shaft Fit Post Rep 0 Degrees Opposite Drive End Bearing Shaft Fit 0 Degrees Shaft Air Seal Fits Post Repair Drive End Air Seal Shaft Repair Sign-off anical Fits- Bearing Housings - Fit	ing Post Repair 90 Degrees Shaft Post Repair 60 Degrees air 60 Degrees Post Repair 60 Degrees Opposite Drive End Air Seal	120 Degrees 120 Degrees 120 Degrees

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98.	Opposite Drive End - Endbell Bearing	•		
	0 Degrees	60 Degrees	120 Degrees	
99.	Bearing Cap Condition Post Repair			
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
100.	End Bell Air Seal Fits Post Repair			
	Drive End Air Seal	Opposite Drive End Air Seal		
		1,,		
101.	DE Sleeve Bearing Inside ID Post Rep	pair		
	Measure 1	Measure 2	Measure 3	
102.	DE Sleeve Bearing Outside ID Post R	epair		
	Measure 1	Measure 2	Measure 3	
103.	DE Sleeve Bearing Inside OD Post Re	epair		
	Measure 1	Measure 2	Measure 3	
104.	DE Sleeve Bearing Outside OD Post F	Repair		
	Measure 1	Measure 2	Measure 3	
105.	End Bell Repair Sign-off			
106.	ODE Sleeve Bearing Inside ID Post R	epair		
	Measure 1	Measure 2	Measure 3	
107.	ODE Sleeve Bearing Outside ID Post	•		
	Measure 1	Measure 2	Measure 3	
108.	ODE Sleeve Bearing Inside OD Post F	•		
	Measure 1	Measure 2	Measure 3	
400	00501 0 0 0 1 1 00 0	(D)		
109.	ODE Sleeve Bearing Outside OD Pos	•		
	Measure 1	Measure 2	Measure 3	
A = = = =	mbh.			
Assen		ing to Annual by		
	QC Check All Parts for Cleanliness Pr	,		
	Photograph All Major Components price	or to assembly		
	Final Insulation Resistance Test			
	Assembled Shaft Endplay			
	Assembled Shaft Runout			
115.	Test Run Voltage			
	Volts	Volts	Volts	
116.	Test Run Amperage			
	Amps	Amps	Amps	
=	5. 5.100 5			
117.	Drive End Vibration Readings - Inches			
	Horizontal	Vertical	Axial	

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118.	Opposite Drive End Vibration Reading	gs - Inches Per Second		
	Horizontal	Vertical	Axial	
	Ambient Temperature - Fahrenheit			
120.	Drive End Bearing Temps - Fahrenhe			
	5 Minutes	10 Minutes	15 Minutes	
121.	Drive End Bearing Temps - Fahrenhe	it 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes	
122.	Drive End Bearing Temps - Fahrenhe			
	35 Minutes	40 Minutes	45 Minutes	
123.	Drive End Bearing Temps - Fahrenhe	it 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes	
124.	Opposite Drive End Bearing Temps -			
	5 Minutes	10 Minutes	15 Minutes	
125.	Opposite Drive End Bearing Temps -	Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes	
126.	Opposite Drive End Bearing Temps -	Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes	
127.	Opposite Drive End Bearing Temps -	Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes	
128	Stator Temperatures- Fahrenheit			
120.	5 Minutes	10 Minutes	15 Minutes	
129.	Stator Temperatures- Fahrenheit 20-3			
	20 Minutes	25 Minutes	30 Minutes	
130.	Stator Temperatures- Fahrenheit 35-4	45 Minutes		
	35 Minutes	40 Minutes	45 Minutes	
131.	Stator Temperatures- Fahrenheit 50-6			
	50 Minutes	55 Minutes	60 Minutes	
132.	Document Final Condition with Picture	es after paint		
133.	Final Pics and QC Review			

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- 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 bee 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. <u>DELIVERY OF GOODS AND/OR SERVICES.</u> 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.
- **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 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 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. <u>LIMITATION OF DAMAGES.</u> 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. **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, 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. **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.