

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

1.0



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

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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

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 Yes Required: Bearing Housing Machined Fit Repairs Required: Heaters: No	Hi-Speed Job Number:	104011
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Bearing RTDs: No Stator RTDs: No Repair Stage: Final Rewind: No Shaft Machined Fit Repairs Yes Required: Bearing Housing Machined No Fit Repairs Required:	Coupling/Sheave:	None
Stator RTDs: No Repair Stage: Final Rewind: No Shaft Machined Fit Repairs Yes Required: Bearing Housing Machined No Fit Repairs Required:	Date Received:	01/30/2025
Repair Stage: Final Rewind: No Shaft Machined Fit Repairs Yes Required: Bearing Housing Machined No Fit Repairs Required:	Bearing RTDs:	No
Rewind: No Shaft Machined Fit Repairs Yes Required: Bearing Housing Machined No Fit Repairs Required:	Stator RTDs:	No
Shaft Machined Fit Repairs Yes Required: Bearing Housing Machined No Fit Repairs Required:	Repair Stage:	Final
Required: Bearing Housing Machined No Fit Repairs Required:	Rewind:	No
Fit Repairs Required:		Yes
Heaters: No		No
	Heaters:	No
Winding Type : Random Wound	Winding Type :	Random Wound
Bearing Type: Rolling Element	Bearing Type:	Rolling Element





5 - Good

Overall Condition

01/29/2025 1. Report Date

2. Nameplate Picture



3. Photos of all six sides of the machine.









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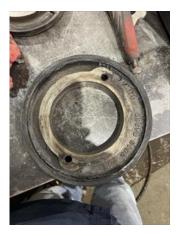






























































4. Describe the Overall Condition of the Equipment as Received

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.

Initial Mechanical/Electrical

5. Does Shaft Turn Freely?
6. Does the shaft require T.I.R in Lathe to identify additional repairs?
(Yes) Yes

7. Does Shaft Have Visible Damage? (No) No

8.	Assembled Shaft Runout		Inc	hes
-	Na			
9.	Assembled Shaft End Play	inc	hes	
-	Na			
10.	Air Gap Variation <10%			
-	Na			
11.	Lead Condition		(P) P	ass
12.	Lead Length		30 Inc	hes
13.	Does it have Lugs?, If so what is the	Stud Size?	(Yes)	Yes
-	Same as wire			
14.	Lead Numbers	U1,V1,W1 U2,V2,	W2	
15.	Frame Condition	Pa	ass	
16.	Fan Condition		(F)	Fail
-	Internal fail, external pass			
17.	Broken or Missing Components			
-	Internal fan rubbed endbell			
Initial	Electrical Inspection			
18.	Insulation Resistance/Megger		2000 Megoł	nms
19.	Winding Resistance			
	1-2	1-3	2-3	
	.0574	.0582	.0561	
-	3.7% difference			
20.	Perform Surge Test		(P) P	ass
21.	Number of Stator Slots			72
22.	Stator Condition		Tests good but has debris windir	
23.	Stator Thermistors/Ohms		thermist	ors





24. Stator Overloads/Ohms	na			
Mechanical 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 O	Other Retention Device?	snap ring
32.	Drive End Bearing Condition		Fail
-	Lack of lubrication		
33.	Opposite Drive End Bearing Brand		FAG
34.	Opposite Drive End Bearing Number-		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 Type		(Grease) Grease Lubricated
38.	Opposite Drive End Bearing Insulation	n or Grounding Device?	ceramic coated
39.	Opposite Drive End Wavy Washer/Sr	•	snap ring
40.		· · · ·	worn
41.	Drive End Seal		none
	Opposite Drive End Seal		none
	Inspection		
	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
47.	List the Parts needed for the Repair E	Below	
48.	Internal fan or fix the one it came with Possibly rewind due to contamination Aegis ring Signature of Technician that Disasser	mbled Motor	Trevor Hall
	Co sign. TRH		
Maab	anical Fits- Rotor		
	Shaft Runout		0.004 inches
-	Both ends		0.001 inches
50.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	0.003		
51.	Coupling Fit Closest to Bearing House	ing	
	0 Degrees	90 Degrees	120 Degrees
	3.9377	3.9378	3.9377
52.	Coupling Fit Closest to the end of the	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	7.5511	4.0009

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				
	Drive End - Endbell Bearing Fit				
	0 Degrees	60 Degrees	120 Degrees		
	9.449199999999999	9.44919999999999	9.449199999999999		
59.	Drive End - Endbell Bearing Fit Condi			(P) Pass	
	Opposite Drive End - Endbell Bearing			,	
	0 Degrees	60 Degrees	120 Degrees		
	7.087	7.0866	7.0868		
61.			- 10000	(P) Pass	
	Bearing Cap Condition	,		(*) * 333	
ŭ <u>-</u> .	Drive End Bearing Cap	Opposite Drive End Bearing Cap			
	fail	pass			
	Drive end rubbed	pass			
63.	End Bell Air Seal Fits				
	Drive End Air Seal	Opposite Drive End Air Seal			
	fail	pass			
	Rubbed drive end	ρασσ			
	List Machine Work Needed Below				
01.	Both drive end bearing caps were rubb Drive end bearing shaft fit is undersized				
65.	Technician		Т	revor Hall	
7-14					
Root	Cause of Failure				
66.	Failure locations				
	Bearings Internal fan Aegis ring Possibly windings due to contaminatio	n			
67.	67. Root cause of failure				
	Fan moved on shaft, aegis ring fell off, lack of lubrication on the drive end.				
Dynamic Balance Report					
68.	Rotor Weight and Balance Grade				
	Rotor Weight	Balance Grade			

69.	Initial Balance Readings				
	Drive End	Opposite Drive End			
	21176 2110	Opposito Dilvo Lila			
70.	Final Balance Readings				
	Drive End	Opposite Drive End			
	Technician				
	anical Fits- Rotor - Post Repair				
	Shaft Runout Post Repair				
73.	Rotor Runout Post Repair				
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing		
		B 18			
74.	Coupling Fit Closest to Bearing Housi	· · · · · · · · · · · · · · · · · · ·	400 5		
	0 Degrees	90 Degrees	120 Degrees		
75	Coupling Fit Closest to the end of the	Shaft Post Renair			
70.	0 Degrees	60 Degrees	120 Degrees		
	o Degrees	oo begrees	120 Degrees		
76.	Drive End Bearing Shaft Fit Post Repa	air			
	0 Degrees	60 Degrees	120 Degrees		
	3	3	ŭ		
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			
70	Shaft Panair Sign off				
	79. Shaft Repair Sign-off				
Assembly 80. QC Check All Parts for Cleanliness Prior to Assembly					
	Photograph All Major Components pri	•			
	Final Insulation Resistance Test	or to assembly			
	Assembled Shaft Endplay				
	Assembled Shaft Runout				
	Test Run Voltage				
00.	Volts	Volts	Volts		
	Volto	VOILO	Volta		
86.	Test Run Amperage				
	Amps	Amps	Amps		
		·			
87.	Drive End Vibration Readings - Inches	Per Second			
	Horizontal	Vertical	Axial		
88.	Opposite Drive End Vibration Reading				
	Horizontal	Vertical	Axial		
ρΩ	Ambient Temperature - Fahrenheit				
09.	Ambient remperature - Famenneit				

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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.	22. Document Final Condition with Pictures after paint		
93.	93. Final Pics and QC Review		



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- 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.
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- 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.
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- 8. <u>WARRANTIES.</u> 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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- 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.