



**KEEPING YOUR FACILITY UP TO SPEED**  
— EVERY DAY SINCE 1946 —

Motor Shop Repairs

**Job Number 99702**

Prepared for Hi-Speed Industrial Service

7030 Ryburn Drive  
MILLINGTON Tennessee 38053

# Table of Contents



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

## AC Recondition As Found

### Hi-Speed Industrial Service

7030 Ryburn Drive  
MILLINGTON, Tennessee 38053

FolderID: 99702  
FormID: 13400393

#### AC Recondition - Rev. 2

Location: Millington Motor Shop

Serial Number: VA006898-A1-YR

Description: 600HP Reliance 3600RPM 4160V  
15EA 5008S

Hi-Speed Job Number: 99702

Manufacturer: Reliance

Serial Number: VA006898-A1-YR

HP/kW: 600 (HP)

RPM: 3569 (RPM)

Frame: 15EA 5008S

Voltage: 4160

Current: 75.2

Phase: Three

Hz: 60 (Hz)

Service Factor: 1.00

J-box Included: None

Coupling/Sheave: Coupling

Date Received: 04/23/2022

Bearing RTDs: Yes

Repair Stage: Teardown Inspection

Rewind: No

Shaft Machined Fit Repairs  
Required: Yes

Bearing Housing Machined  
Fit Repairs Required: Yes

Heaters: Yes

Winding Type : Form Coil

Bearing Type: Sleeve Bearing

Priorities Found: ● 1 - High ● 8 - Good

#### Overall Condition

1. Report Date
2. Nameplate Picture



3. Describe the Overall Condition of the Equipment as Received

*Very clean on the outside*

4. Distance from the end of the shaft to the Coupling/Sheave

**0 inches**

■ *Coupling is flush*

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## Initial Mechanical/Electrical

5. Does Shaft Turn Freely?

(Yes) Yes



6. Does Shaft Have Visible Damage?

(No) No

*Only some marks from a pipewrench*

7. Assembled Shaft Runout

0.001 Inches

8. Assembled Shaft End Play

0.5 inches

9. Air Gap Variation <10%

10. Lead Condition

(P) Pass



11. Lead Length

40 Inches

12. Stator Temperature Detector Rating and Function

Quantity

Rating

Quantity Passed

13. Bearing Temperature Detector Rating and Function

Quantity

Rating

Quantity Passed

14. Frame Condition

good, fits need cleaned



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15. Fan Condition

(P) Pass



16. Heater Quantity, Ratings

Quantity

Volts/Watts

Pass/Fail

4

17. Broken or Missing Components

no

### Initial Electrical Inspection

18. Insulation Resistance/Megger

24854 Megohms



19. Winding Resistance

1-2

1-3

2-3

.565

.565

.564

20. Perform Surge Test

(P) Pass



21. Stator Condition

recondition

**Mechanical Inspection**

22. Drive End Bearing Number-



23. Drive End Bearing Qty.

1

24. Drive End Bearing Type

(Other) Other

*Babbit sleeve*

25. Drive End Lubrication Type

(Oil) Oil Lubricated

26. Drive End Bearing Insulation or Grounding Device?

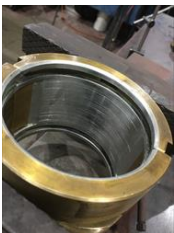
no

27. Drive End Wavy Washer/Snap-Ring Other Retention Device?

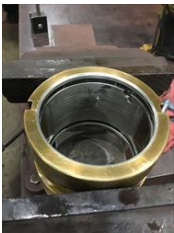
no

28. Drive End Bearing Condition

has grooves worn in the babbit



29. Opposite Drive End Bearing Number-



30. Opposite Drive End Bearing Qty.

1

31. Opposite Drive End Bearing Type

(Other) Other

*Babbit sleeve*

32. Opposite Drive End Lubrication Type

(Oil) Oil Lubricated

33. Opposite Drive End Bearing Insulation or Grounding Device?

no

34. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?

no

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35. Opposite Drive End Bearing Condition

pass

Has a casting bubble in material but not causing harm



36. Drive End Seal

37. Opposite Drive End Seal

### Rotor Inspection

38. Rotor Type/Material

(Squirrel Aluminum) Squirrel  
Cage Aluminum Die Cast



39. Growler Test

(Pass) Pass

40. Number of Rotor Bars

40

41. Rotor Condition

rotor was 2.5 mils out of  
balance

42. List the Parts needed for the Repair Below

43. Signature of Technician that Disassembled Motor

Trevor Hall

### Mechanical Fits- Rotor

44. Shaft Runout

0.001 inches

45. Rotor Runout

Drive End Bearing Fit

Rotor Body

Opposite Drive End Bearing

0.001

0.001

0.001

46. Coupling Fit Closest to Bearing Housing

0 Degrees

90 Degrees

120 Degrees











47. Coupling Fit Closest to the end of the Shaft

0 Degrees


60 Degrees

120 Degrees



48.	Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	2.9995	2.9992	2.9994
	2.9992 2.9990 2.9990 2.9989 2.9989 2.9989		
			
	49. Drive End Bearing Shaft Fit Condition (P) Pass		
50.	Opposite Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	2.9993	2.9993	2.9993
	2.9991 2.9989 2.9989 2.9991 2.9990 2.9991		
			
	51. Opposite Drive End Bearing Shaft Fit Condition (P) Pass		
52.	Shaft Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
Mechanical Fits- Bearing Housings			
53.	Drive End - Endbell Bearing Fit		
	0 Degrees	60 Degrees	120 Degrees
	3.0021	3.0068	3.0037
	3.0036 3.0038 3.0082		
	54. Drive End - Endbell Bearing Fit Condition (P) Pass		
55.	Opposite Drive End - Endbell Bearing Fit		
	0 Degrees	60 Degrees	120 Degrees
	3.0021	3.0048	3.0047
	3.0022 3.0040 3.0052		
	56. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass		



57. Bearing Cap Condition	
Drive End Bearing Cap	Opposite Drive End Bearing Cap
	
58. End Bell Air Seal Fits	
Drive End Air Seal	Opposite Drive End Air Seal
59. List Machine Work Needed Below <i>Clean up shaft and babbit sleeves</i>	
60. Technician	Trevor Hall
	
<b>Root Cause of Failure</b>	
61. Failure locations <i>Babbit bearings had scars in them</i>	
62. Root cause of failure <i>Bearings and shaft had scars in them, fits are not clean on endbells, rotor was 2.5 mils out of balance.</i>	



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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. **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.
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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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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.
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