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# LR Motor Shop Repairs

## **Job Number 103241**

Prepared for Welspun Tubular (11685)

9301 Frazier Pike Little Rock AR 72206

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AC Inspection - Rev. 2: 21631

1.0



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

> FolderID: 103241 FormID: 21038668

# AC Inspection as Found Welspun Tubular (11685)

9301 Frazier Pike Little Rock, AR 72206

#### AC Inspection - Rev. 2

Location: LR MOTORSHOP

Serial Number: 21631

Description:25HP AJAY 3450 RPM

Hi-Speed Job Number:	102832
Manufacturer:	Other
Product Number:	TYPE: 43PH25
Serial Number:	21631
HP/kW:	25 (HP)
RPM:	21631 (RPM)
Voltage:	480
Current:	33 (Amps)
Phase:	Three
Hz:	60 (Hz)
Enclosure:	TEFC
# of Leads:	6
J-box Included:	Half
Coupling/Sheave:	Propeller
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

### **Overall Condition**

1. Report Date

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### 2. Nameplate Picture



3. Photos of all six sides of the machine.



















4.	Describe the Overall Condition of the Equipment as Received	
5.	Distance from the end of the shaft to the Coupling/Sheave	inches
Initial	Mechanical/Electrical	
6.	Does Shaft Turn Freely?	
7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	
8.	Does Shaft Have Visible Damage?	
9.	Assembled Shaft Runout	Inches
10.	Assembled Shaft End Play	inches
11.	Air Gap Variation <10%	

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12	Lead Condition		
	Lead Length		Inches
	Does it have Lugs?, If so what is the Stud Size?		mones
15.	Lead Numbers		
	Frame Condition		
	Fan Condition		
	Broken or Missing Components		
	Electrical Inspection		
	Insulation Resistance/Megger		Megohms
	Winding Resistance		mogonino
20.	1-2 1-3	2-3	
	10	2 0	
21.	Perform Surge Test		
22.	Number of Stator Slots		
23.	Stator Condition		
24.	Stator Thermistors/Ohms		
25.	Stator Overloads/Ohms		
Mech	anical Inspection		
26.	Drive End Bearing Brand		
27.	Drive End Bearing Number-		
28.	Drive End Bearing Qty.		
29.	Drive End Bearing Type		
30.	Drive End Lubrication Type		
31.	Drive End Bearing Insulation or Grounding Device?		
32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		
33.	Drive End Bearing Condition		
34.	Opposite Drive End Bearing Brand		
35.	Opposite Drive End Bearing Number-		
36.	Opposite Drive End Bearing Qty.		
37.	Opposite Drive End Bearing Type		
38.	Opposite Drive End Lubrication Type		
39.	Opposite Drive End Bearing Insulation or Grounding Device?		
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?		
41.	Opposite Drive End Bearing Condition		
42.			
	Opposite Drive End Seal		
	Inspection		
	Rotor Type/Material		
	Growler Test		
	Number of Rotor Bars		
	Rotor Condition		
	List the Parts needed for the Repair Below		
	Signature of Technician that Disassembled Motor		
	anical Fits- Rotor		
50.	Shaft Runout		inches

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51.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	0 1 5 0 1 5		
52.	Coupling Fit Closest to Bearing Housi		400 Damasa
	0 Degrees	90 Degrees	120 Degrees
53.	Coupling Fit Closest to the end of the	Shaft	
	0 Degrees	60 Degrees	120 Degrees
	D: 5 15 : 01 65		
54.	Drive End Bearing Shaft Fit	00 D	100 D
	0 Degrees	60 Degrees	120 Degrees
55.	Drive End Bearing Shaft Fit Condition		
56.	Opposite Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	0 " 0 " 5 10 " 0 " 5"	0 ""	
	Opposite Drive End Bearing Shaft Fit Shaft Air Seal Fits	Condition	
36.	Drive End Air Seal	Opposite Drive End Air Seal	
	Drive Life All Seal	Opposite Drive Life All Seal	
Mech	anical Fits- Bearing Housings		
59.	Drive End - Endbell Bearing Fit		
	0 Degrees	60 Degrees	120 Degrees
60	Drive End Endhall Bearing Eit Condi	tion	
	Drive End - Endbell Bearing Fit Condi Opposite Drive End - Endbell Bearing		
01.	0 Degrees	60 Degrees	120 Degrees
	0 D0g1000	00 D0g1000	120 Dog1000
62.	Opposite Drive End - Endbell Bearing	Fit Condition	
63.	<b>V</b> 1		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
64.	End Bell Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
65	List Machine Work Needed Below		
	Technician		
Root	Cause of Failure		
67.	Failure locations		
68.	Root cause of failure		
Dynai	mic Balance Report		
69.	Rotor Weight and Balance Grade		
	Rotor Weight	Balance Grade	
70.	Initial Balance Readings		
	Drive End	Opposite Drive End	

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71	Final Palance Pandings		
/ 1.	Final Balance Readings	Opposite Daire Ford	
	Drive End	Opposite Drive End	
72.	Technician		
sser	mbly		
	QC Check All Parts for Cleanliness F	Prior to Assembly	Cw
74.	Photograph All Major Components p	rior to assembly	
75.	Final Insulation Resistance Test		Megohms
76.	Assembled Shaft Endplay		inches
77.	Assembled Shaft Runout		inches
78.	Test Run Voltage		
	Volts	Volts	Volts
79.	Test Run Amperage		
	Amps	Amps	Amps
80.	Drive End Vibration Readings - Inche	es Per Second	
	Horizontal	Vertical	Axial
81.	Opposite Drive End Vibration Readir	ngs - Inches Per Second	
	Horizontal	Vertical	Axial
82.	Ambient Temperature - Fahrenheit		
83.	Drive End Bearing Temps - Fahrenh	eit	
	5 Minutes	10 Minutes	15 Minutes
84.	Opposite Drive End Bearing Temps	- Fahrenheit	
	5 Minutes	10 Minutes	15 Minutes

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- 85. Document Final Condition with Pictures after paint
- Pulled pump assembly apart seal was damaged. Replaced seal and resealed compartment with a pressure test check the pump passed



Held at 10 pounds for 15 minutes

86. Final Pics and QC Review

Cw

Co sign: T HALLAND



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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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- 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.
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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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- 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.
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