

# EVERY DAY SINCE 1946

LR Motor Shop Repairs

## Job Number 100770

Prepared for Remington (10243)

2592 AR Hwy 15 N Lonoke AR 72086

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Submersible Pump Repair Report - MOTOR SHOP LR

Submersible Pump Repair Report: 7011-0192



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

> FolderID: 100770 FormID: 15681788

Submersible Pump Repair Report

Remington (10243) 2592 AR Hwy 15 N Lonoke, AR 72086

Submersible Pump Repair Report	Make:	ZOELLER
Location: MOTOR SHOP LR	HP:	2 (HP)
Serial Number: 7011-0192	Model:	G7011-A
Description:2HP ZOELLER 3600RPM SUB	Serial:	7011-0192
PUMP	V:	460 (V)
	A:	2.6 (A)
	RPM:	3450 (RPM)
	Hz:	60 (Hz)
	Phase:	3

#### Priorities Found: 🛑 4 - High

n 🕘 28 - Good

#### General

1. Job Number













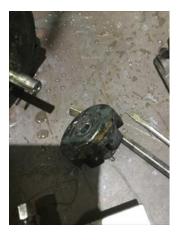




















2.	Report Date	
3.	Customer	
Initia	Pump Inspection	
4.	Power Cord Wire Size	14 AWG
5.	Power Cord # of Conductors	4
6.	Power Cord Length	30 ft
• 7.	Power Cord Condtion	(F) Fail
8.	Sensor Cord Wire Size	18 AWG
9.	Sensor Cord # of Conductors	5

	10.	Sensor Cord Length	30 ft
	11.	Sensor Cord Condition	(F) Fail
	12.	Sensor Cord for Thermal Protection?	(Y) Yes
	13.	Sensor Cord for Water Protection	(Y) Yes
	14.	Bowl Condition	(P) Pass
	15.	Impeller Condition	(P) Pass
	16.	Number of Wear Rings	
	17.	Wear Ring Condition	(N) NA
	18.	Wear Ring Size	
		Wear Ring Clearance to Impeller	
		Wear Ring Material	
	21.	Seal Surfaces Condition	(F) Fail
	22.		
	23.	-	2
	24.		silicon
	24.		50000
	-	-	
	26.	Elastic Component Material Seal OD	
	27.		mm
	-	Seal ID	
	29.		none
•		Seal Plate Condition	(P) Pass
		Water Sensor in Seal Cavity?	(Y) Yes
	32.	Oil Filled Seal Cavity?	(Y) Yes
•		Oil Filled Stator?	(Y) Yes
In	itial	Inspection	
	34.	Number of Leads	3
	35.	Lead Length	6 Inches
	36.	Lead Size	12
	37.	Lead Condition	(P) Pass
	38.	Lead Markings	
	39.	Lead Size for Oil Filled Stator	AWG
	40.	Lug Size, Condition, and Type	
	41.	Overload Required?	
	42.	Winding RTD's	
	43.	Winding Rtd's Condition	
	44.	-	
	45.	Does Shaft Turn Freely	yes
	46.	Does Shaft Have Visible Damage	
	47.	Bearing Rtd's	
	48.	Bearing Rtd's Condition	
		Contamination	
		Water in cord cap	
	50.	Frame Condition	(P) Pass
		Fan Condition	(NA) Not Applicable
-		Broken or missing components	
	52.	None	
In	itial	Electric Test	
m	nual		

Resistance to Ground	2000 Mohm
	2000 MOTIN
Winding Resistance 1-2	
Winding Resistance 2-3	
Winding Resistance 1-3	
Resistive Imbalance	
	(P) Pass
	good
	cord cap leak
Rotor Inspection	
Rotor Type	cast aluminum
Air Gap <10% Variation	
Number of Rotor Bars	40
Number of Broken Rotor Bars	
Growler Test	(P) Pass
Rotor Condition	(P) Pass
nical Inspection	
Bearing Manufacturer	SKF
Bearing DE Size	7306
Bearing DE Type	angular contact
DE Bearing Qty.	1
Bearing ODE Size	6201
Bearing ODE Type	ball
ODE Bearing Qty.	1
Insulated Bearing	
Lubrication Type	oil
Grease Condition	(NA) Not Applicable
Bearing Retainers	(N) No
Shaft Grounding Device	(NA) Not Applicable
DE Seal	(NA) Not Applicable
DE Seal Type/Size	
ODE Seal	(NA) Not Applicable
••	
	cord cap
-	
7306, 6201, 1 5/8 x 1 seals (2), 30' 12/4 cord, 30' 18/5 cord	
Service Technician	David Maclin
	Rotor Type         Air Gap <10% Variation

89.	. Initial Shaft Run Out			
90.	. Final Shaft Run Out			
91.	. DE Bearing Shaft Fit			(P) Pass
92.	. DE Initial Shaft Bearing Fit Size			
	Measure 1	Measure 2	Measure 3	
	1.1812	1.1812	1.1812	
93.	. DE Final Shaft Bearing Fit Size			
	Measure 1	Measure 2	Measure 3	
	. ODE Bearing Shaft Fit			(P) Pass
95.	. ODE Initial Shaft Bearing Fit Size			
	Measure 1	Measure 2	Measure 3	
	0.4725	0.4725	0.4725	
96.	. ODE Final Shaft Bearing Fit Size			
	Measure 1	Measure 2	Measure 3	
07	. DE Air Seal Shaft Fit			
-	. DE Air Seal Shaft Fit . DE Air Seal Shaft Size			
98.				
	Initial	Final		
99	. ODE Air Seal Shaft Fit			
	). ODE Air Seal Shaft Size			
	Initial	Final		
	i i i i i i i i i i i i i i i i i i i			
101	. DE Endbell Fit			(P) Pass
102	2. DE Initial Endbell Fit Size			
	Measure 1	Measure 2	Measure 3	
	2.8346	2.8346	2.8346	
103	<ol> <li>DE Final Endbell Fit Size</li> </ol>			
	Measure 1	Measure 2	Measure 3	
104	<ol> <li>DE Endbell Fit Insulated</li> </ol>			
105	5. DE Endbell Air Seal Fit			
106	6. DE Endbell Air Seal Fit Size			
	Initial	Final		
407				(D) D
-	7. ODE Endbell Fit			(P) Pass
108	3. ODE Initial Endbell Fit Size	Magaura 2	Magazina 2	
	Measure 1	Measure 2	Measure 3	
	4 0500	4 0500	4 0500	
400	1.2598	1.2598	1.2598	
109	). ODE Final Endbell Fit Size			
109		1.2598 Measure 2	1.2598 Measure 3	
	<ul> <li>ODE Final Endbell Fit Size</li> <li>Measure 1</li> </ul>			
110	<ul> <li>ODE Final Endbell Fit Size</li> <li>Measure 1</li> <li>ODE Endbell Fit Insulated</li> </ul>			
110 111	<ul> <li>ODE Final Endbell Fit Size</li> <li>Measure 1</li> <li>ODE Endbell Fit Insulated</li> <li>ODE Endbell Air Seal Fit</li> </ul>			
110 111	<ul> <li>ODE Final Endbell Fit Size Measure 1</li> <li>ODE Endbell Fit Insulated</li> <li>ODE Endbell Air Seal Fit</li> <li>ODE Endbell Air Seal Fit Size</li> </ul>	Measure 2		
110 111	<ul> <li>ODE Final Endbell Fit Size</li> <li>Measure 1</li> <li>ODE Endbell Fit Insulated</li> <li>ODE Endbell Air Seal Fit</li> </ul>			

113. Foot Flatness

114. Foot Condition

- 115. Flange Condition
- 116. Service Technician

(NA) Not Applicable (NA) Not Applicable

> (P) Pass **David Maclin**

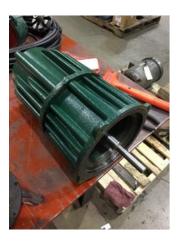
2

#### **Balancing Report**

- 117. Balance Type
- 118. Balance Operating Speed
- 119. Start Left End
- 120. Start Right End
- 121. Balancing Specification
- 122. Finish Left End
- 123. Finish Right End
- 124. Service Technician

#### **Assembly and Final Test**

125. Rotor and Impeller Balanced









126. Stator Housing Refilled with Oil (if required)	(Y) Yes
127. Stator Pressure Test	(P) Pass
128. Seal Cavity Pressure Test	(P) Pass

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129.	Time Under Pressure		15 min
130.	Overload Continuity		(P) Pass
131.	Water Sensor Open?		(NA) Not Applicable
132.	Meggar Testing Reading		2000 Mohm
133.	Surge Test		(P) Pass
134.	Hi-Pot		
135.	Winding Resistance		
	1-2	2-3	3-1
136.	Test Run		(P) Pass
137.	Test Run Voltage		
	Dhase A	Dhaca P	Dhana C

Phase A	Phase B	Phase C
460	459	459



138.	Test Run Current		
	Phase A	Phase B	Phase C
	1.4	1.6	1.6
139.	DE Vibration Reading		
	Horizontal	Vertical	Axial
	0.0108	0.0116	0.0056
140.	ODE Vibration Reading		
	Horizontal	Vertical	Axial
	0.01	0.0145	0.0083999999999999999
141.	Ambient Temp at start of Test Run		
142.	Temp at 5 minutes		
143.	Temp at 10 minutes		
144.	Temp at 15 minutes		
145.	Temp at 20 minutes		
146.	Temp at 25 minutes		
147.	Temp at 30 minutes		
148.	Temp at 35 minutes		
149.	Temp at 40 minutes		
150.	Temp at 45 minutes		
151.	Temp at 50 minutes		
152.	Temp at 55 minutes		
153.	Temp at 60 minutes		

#### 154. Motor Paint







155. Service Technician

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**David Maclin** 



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- 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.

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- 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.
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- 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.