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

# AC Inspection as Found

**Georges Inc**
**1810 S. St. Louis Street**
**Batesville, AR 72501**

FolderID: 103920
FormID: 22713798

**AC Inspection - Rev. 2**

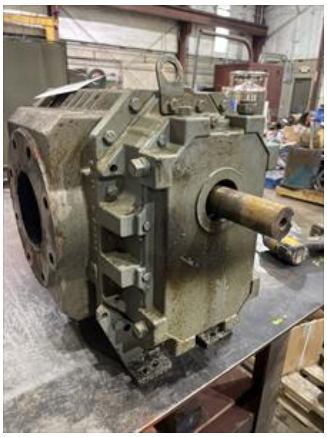
| | |
|---|---|
| **Location:** | LR MOTOR SHOP |
| **Serial Number:** | |
| **Description:** | ROOTS BLOWER |

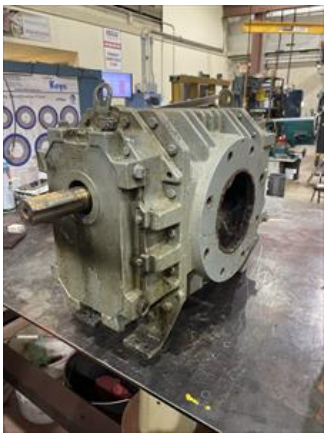
| | |
|---|---|
| **Hi-Speed Job Number:** | 103920 |
| **Product Number:** | 05929B |
| **# of Leads:** | Other |
| **J-box Included:** | None |
| **Coupling/Sheave:** | None |
| **Bearing RTDs:** | No |
| **Stator RTDs:** | No |
| **Repair Stage:** | Final |
| **Rewind:** | No |
| **Shaft Machined Fit Repairs Required:** | No |
| **Bearing Housing Machined Fit Repairs Required:** | Yes |
| **Heaters:** | No |
| **Bearing Type:** | Rolling Element |

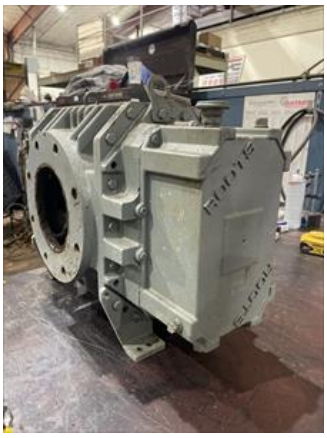
Priorities Found: **2 - High** **6 - Good**

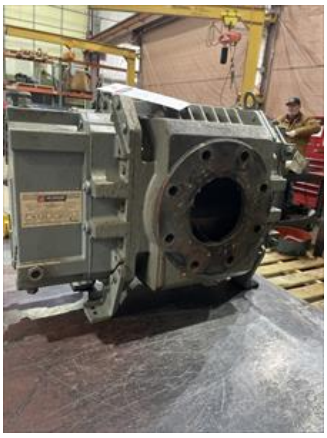
## Overall Condition

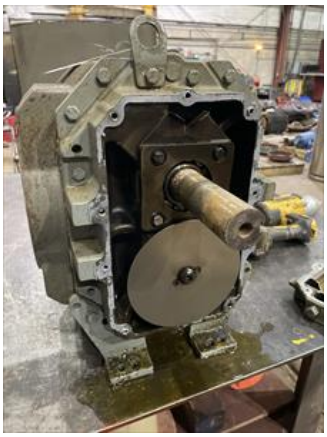
1. Report Date
2. Nameplate Picture
3. Photos of all six sides of the machine. P45

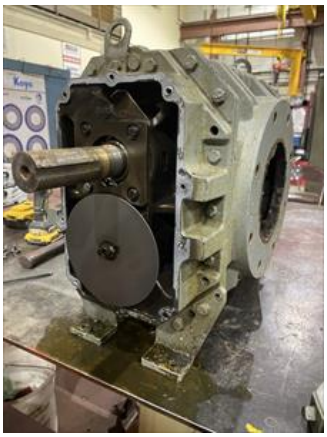


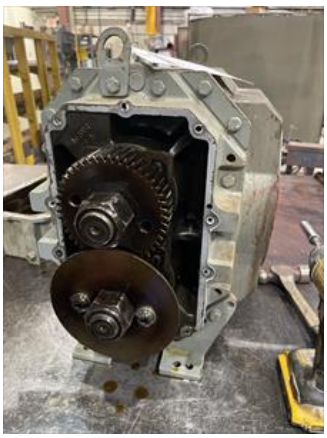


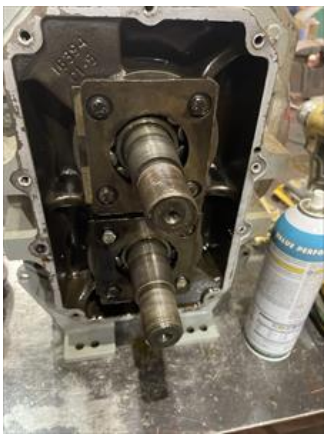


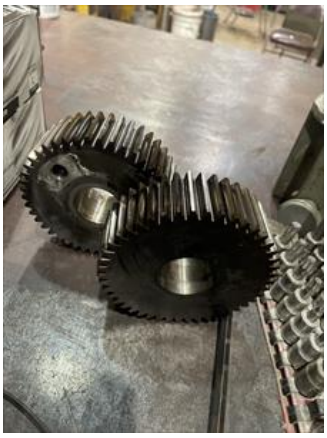


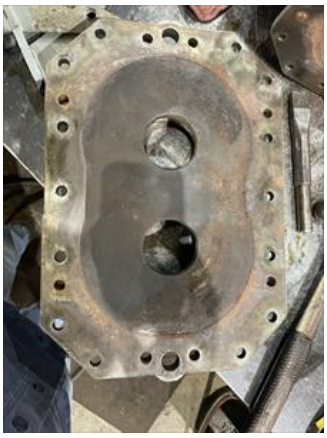


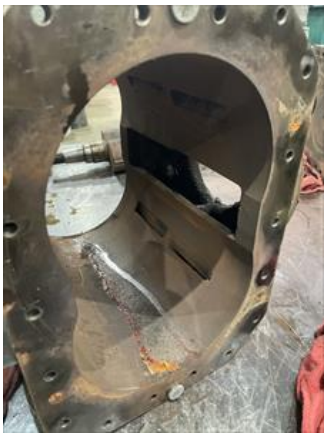


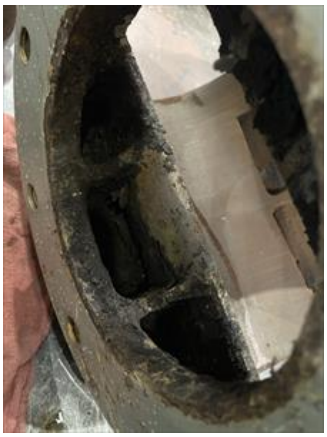


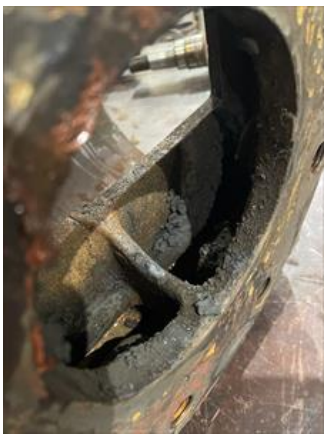


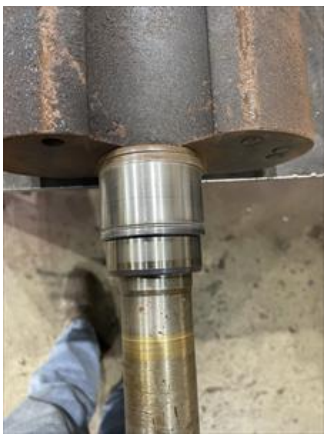


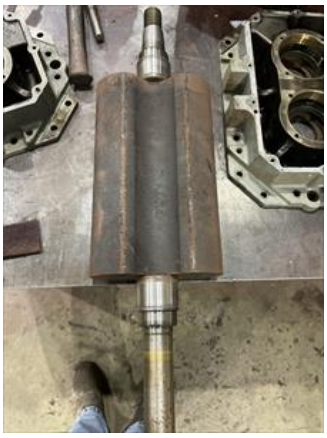


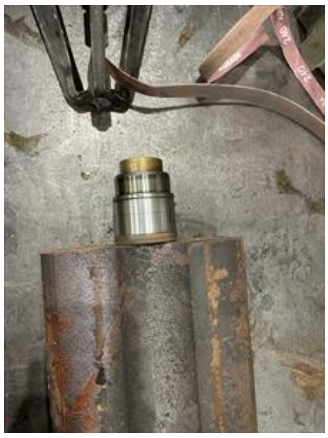


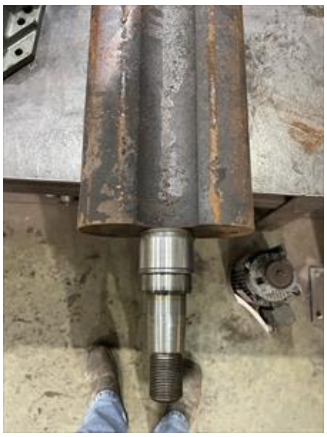


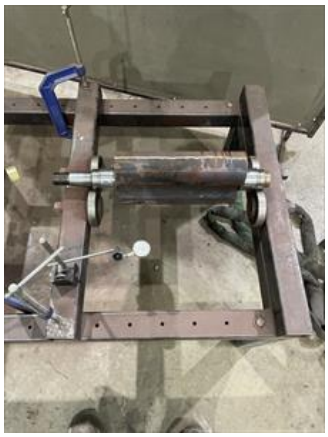












| | | | |
|---|---|---|---|
| | 4. | Describe the Overall Condition of the Equipment as Received<br>***Dirty and rusted***<br>***Need bearings, seals and machine 3 housings*** | |
| **Initial Mechanical/Electrical** | | | |
| ● | 5. | Does Shaft Turn Freely? | **(Y) Yes** |
| ● | 6. | Does the shaft require T.I.R in Lathe to identify additional repairs? | **(No) No** |
| | 7. | Does Shaft Have Visible Damage? | **(No) No** |
| ● | 8. | Assembled Shaft Runout | **0.001 Inches** |
| | 9. | Assembled Shaft End Play | **inches** |
| | | ***Na*** | |
| | 10. | Air Gap Variation <10% | |
| | | ***Na*** | |
| ● | 11. | Lead Condition | **(NA) Not Applicable** |
| | 12. | Lead Length | **Inches** |
| | | ***Na*** | |
| ● | 13. | Does it have Lugs?, If so what is the Stud Size? | **(No) No** |
| | 14. | Lead Numbers | |
| | | ***Na*** | |
| | 15. | Frame Condition | **good** |
| | 16. | Fan Condition | **(N) NA** |
| | 17. | Broken or Missing Components | **yes** |
| | | ***Missing seal on drive end output shaft 2.250x1.500x0.3750*** | |
| **Initial Electrical Inspection** | | | |

| | | |
|---|---|---|
| 18. | Insulation Resistance/Megger | **Megohms** |
| | *Na* | |
| 19. | Winding Resistance | |
| | 1-2 1-3 2-3 | |
| | *Na* | |
| 20. | Perform Surge Test | **(NA) Not Applicable** |
| 21. | Number of Stator Slots | |
| | *Na* | |
| 22. | Stator Condition | |
| | *Na* | |
| 23. | Stator Thermistors/Ohms | |
| | *Na* | |
| 24. | Stator Overloads/Ohms | |
| | *Na* | |

## Mechanical Inspection

| | | |
|---|---|---|
| 25. | Drive End Bearing Brand | **FAG** |
| 26. | Drive End Bearing Number- | **NJ308** |
| 27. | Drive End Bearing Qty. | **2** |
| 28. | Drive End Bearing Type | **(Roller) Roller Bearing** |
| 29. | Drive End Lubrication Type | **(Oil) Oil Lubricated** |
| 30. | Drive End Bearing Insulation or Grounding Device? | |
| | *No* | |
| 31. | Drive End Wavy Washer/Snap-Ring Other Retention Device? | **no** |
| 32. | Drive End Bearing Condition | **worn** |
| 33. | Opposite Drive End Bearing Brand | **FAG** |
| 34. | Opposite Drive End Bearing Number- | **NJ308** |
| 35. | Opposite Drive End Bearing Qty. | **2** |
| 36. | Opposite Drive End Bearing Type | **(Roller) Roller Bearing** |
| 37. | Opposite Drive End Lubrication Type | **(Oil) Oil Lubricated** |
| 38. | Opposite Drive End Bearing Insulation or Grounding Device? | **no** |
| 39. | Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? | **no** |
| 40. | Opposite Drive End Bearing Condition | **worn** |
| 41. | Drive End Seal | |
| | *Multiple* | |
| 42. | Opposite Drive End Seal | |
| | *Multiple* | |

## Rotor Inspection

| | | |
|---|---|---|
| 43. | Rotor Type/Material | |
| | *Na* | |
| 44. | Growler Test | |
| | *Na* | |
| 45. | Number of Rotor Bars | |
| | *Na* | |
| 46. | Rotor Condition | |
| | *Na* | |

47. List the Parts needed for the Repair Below

*4-NJ308*
*4-3"x2.25"x0.3750"*
*1-2.250"x1.500"x0.3750"*
*Sleeve 3 bearing housings*

48. Signature of Technician that Disassembled Motor — **Trevor Hall**

## Mechanical Fits- Rotor

49. Shaft Runout — **0.001 inches**

*All fits are within .001 and the drive shaft.*

50. Rotor Runout

| Drive End Bearing Fit | Rotor Body | Opposite Drive End Bearing |
|---|---|---|
| | | |

*Na*

51. Coupling Fit Closest to Bearing Housing

| 0 Degrees | 90 Degrees | 120 Degrees |
|---|---|---|
| **1.4991** | **1.4983** | **1.4985** |

52. Coupling Fit Closest to the end of the Shaft

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **1.4991** | **1.4987** | **1.4985** |

53. Drive End Bearing Shaft Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| | | |

54. Drive End Bearing Shaft Fit Condition

55. Opposite Drive End Bearing Shaft Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| | | |

56. Opposite Drive End Bearing Shaft Fit Condition

57. Shaft Air Seal Fits

| Drive End Air Seal | Opposite Drive End Air Seal |
|---|---|
| **good** | **good** |

## Mechanical Fits- Bearing Housings

58. Drive End - Endbell Bearing Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| | | |

*3.5451 3.5453 3.5453*
*3.5448 3.5450 3.5449*

59. Drive End - Endbell Bearing Fit Condition — **(F) Fail**

60. Opposite Drive End - Endbell Bearing Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| | | |

*3.5437 3.5439 3.5438 ODE*
*3.5449 3.5444 3.5442 ODE*

61. Opposite Drive End - Endbell Bearing Fit Condition — **(F) Fail**

62. Bearing Cap Condition

| Drive End Bearing Cap | Opposite Drive End Bearing Cap |
|---|---|

*Na*

63. End Bell Air Seal Fits

| Drive End Air Seal | Opposite Drive End Air Seal |
|---|---|

*Na*

64. List Machine Work Needed Below

***Sleeve 3 bearing housings***

65. Technician **Trevor Hall**

## Root Cause of Failure

66. Failure locations

***Bearing housings***

67. Root cause of failure

***Missing seal and worn bearing housings***

## Dynamic Balance Report

68. Rotor Weight and Balance Grade

| Rotor Weight | Balance Grade |
|---|---|

69. Initial Balance Readings

| Drive End | Opposite Drive End |
|---|---|

70. Final Balance Readings

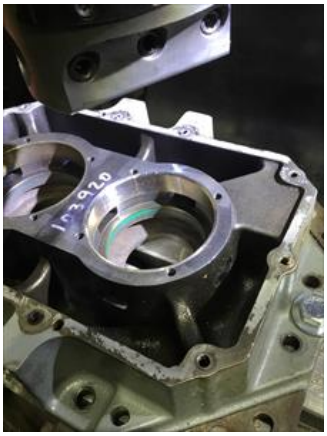
| Drive End | Opposite Drive End |
|---|---|

71. Technician

## Mechanical Fits- Bearing Housings - Post Repair

72. Drive End - Endbell Bearing Fit Post Repair P5

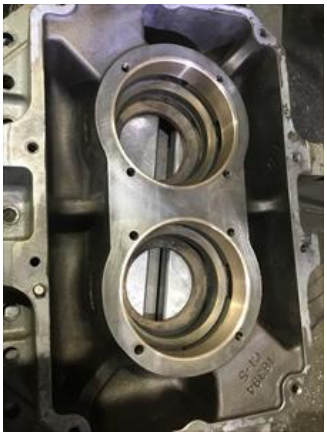
| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **3.5436** | **3.5436** | **3.5436** |



73. Opposite Drive End - Endbell Bearing Fit Post Repair P19

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **3.5435** | **3.5435** | **3.5434** |

*3.5436, 3.5437, 3.5437*



74. Bearing Cap Condition Post Repair

| Drive End Bearing Cap | Opposite Drive End Bearing Cap |
|---|---|

75. End Bell Air Seal Fits Post Repair

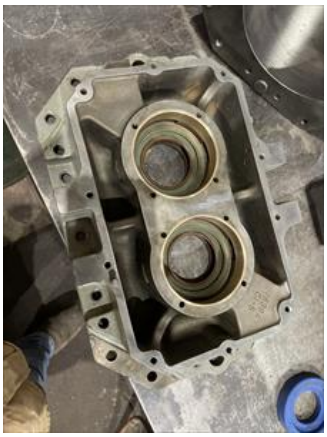
| Drive End Air Seal | Opposite Drive End Air Seal |
|---|---|

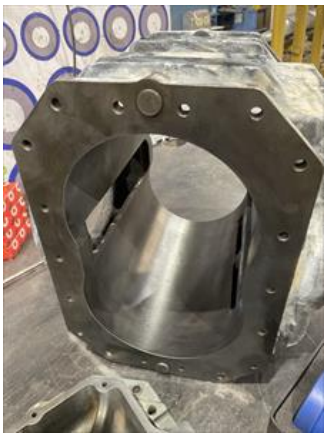
76. End Bell Repair Sign-off **Gary**

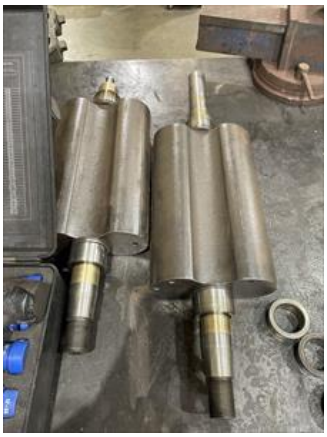
## Assembly

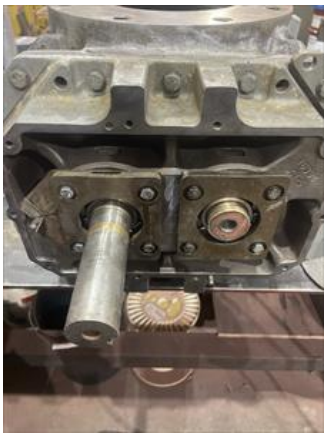
77. QC Check All Parts for Cleanliness Prior to Assembly

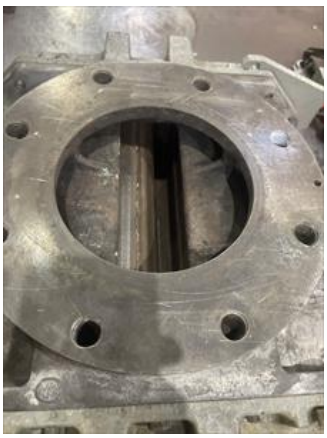
78. Photograph All Major Components prior to assembly P17

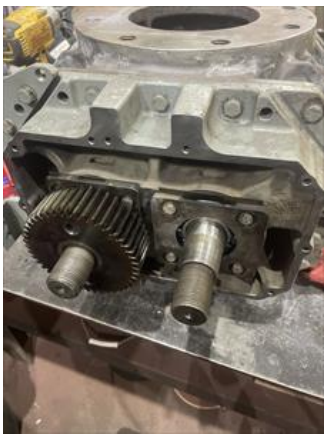


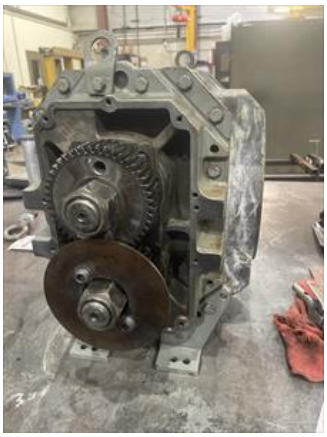


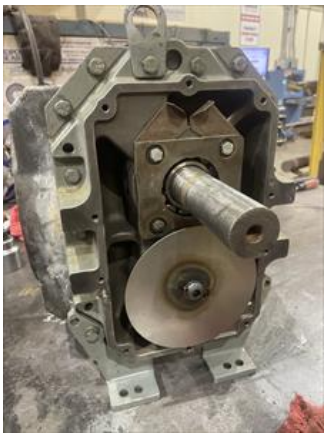




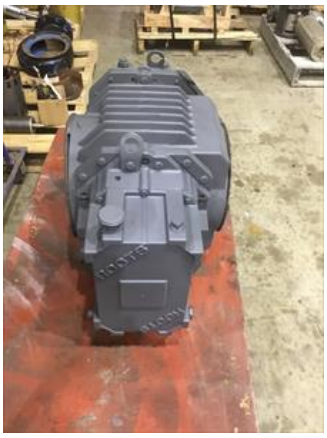


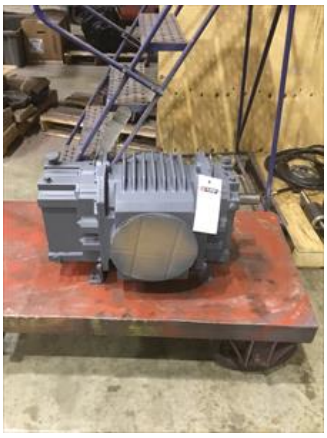


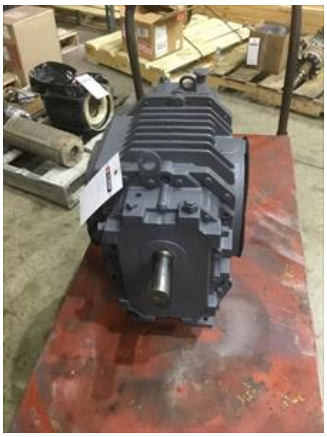


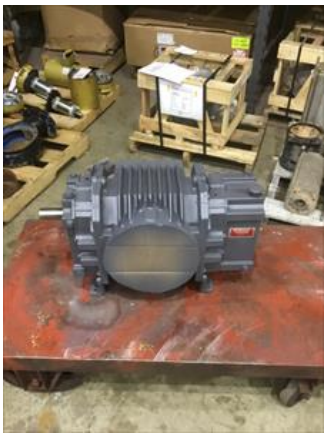


| | | | | |
|---|---|---|---|---|
| 79. | Final Insulation Resistance Test | | | **Megohms** |
| 80. | Assembled Shaft Endplay | | | **inches** |
| 81. | Assembled Shaft Runout | | | **inches** |
| 82. | Test Run Voltage | | | |
| | Volts | Volts | Volts | |
| 83. | Test Run Amperage | | | |
| | Amps | Amps | Amps | |
| 84. | Drive End Vibration Readings - Inches Per Second | | | |
| | Horizontal | Vertical | Axial | |
| 85. | Opposite Drive End Vibration Readings - Inches Per Second | | | |
| | Horizontal | Vertical | Axial | |
| 86. | Ambient Temperature - Fahrenheit | | | |
| 87. | Drive End Bearing Temps - Fahrenheit | | | |
| | 5 Minutes | 10 Minutes | 15 Minutes | |
| 88. | Opposite Drive End Bearing Temps - Fahrenheit | | | |
| | 5 Minutes | 10 Minutes | 15 Minutes | |
| 89. | Stator Temperatures- Fahrenheit | | | |
| | 5 Minutes | 10 Minutes | 15 Minutes | |
| 90. | Document Final Condition with Pictures after paint | | | P129 |

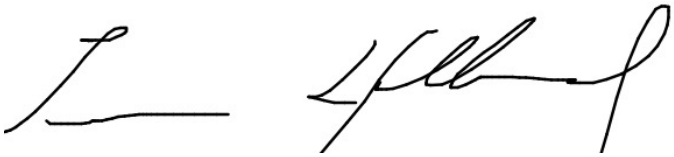








91. Final Pics and QC Review **Terrence Holland**



*Co sign: CW*