

Pine AFGC125X Gyrotory Compactor Service/Calibration Record

- ☐ Pine AFGC125XA (115 V 60 Hz)
☒ Pine AFGC125X (220 V 60Hz)
☐ Pine AFGC125XE (220 V 50 Hz)

015
 Serial Number

Mark Downing 4-3-12
 Technician (sign and date)

UNIVERSITY OF ARK.
 SGC Owner (Company Name)

FAYETTEVILLE ARK.
 SGC Location (City and State)

Status of Compactor Prior to Calibration Change

107.1 1-18-11 2-20-12 PCS
 Machine Hours Previous SGC Calibration Date Previous SGC Verification Date Previous Service Provider (if known)

Speed of Gyration (30 ± 0.5 GPM)

Ultimate 9921
 Stop Watch Serial Number

Gyrations	"As Found"	"As Left"
15	<u>30.05</u> s	<u>30.05</u> s

(15 gyrations in 30 ± 0.5 seconds is 30 ± 0.5 GPM)

Consolidation Pressure (Force Measurement)

Pine AFGCLRO5C 1280
 Load Ring Model Serial Number

01/10/2012
 Calibration Date

Force (N)	Dial (±1 % Range)	Dial "As Found"	Dial "As Left"
3500	<u>77.8 - 79.4</u>	<u>78.4</u>	<u>78.4</u>
14500	<u>323.8 - 330.4</u>	<u>324.2</u>	<u>324.5</u>

Specimen Height (Position Measurement)

Pine AFG123C 1280-1A, 1B, 2A, 2B
 Gage Block Model Serial Number(s)

01/12/2012
 Block Calibration Date

Height mm (inches)	"As Found"	"As Left"
152.4 mm (6")	<u>152.41</u>	<u>152.40</u>

Internal Angle of Gyration (AASHTO TP71)

Pine AFLS1 (RAM) 005
 Internal Angle Device Serial Number

10/06/2011 PCS
 Calibration Date Mold Identification

Angle Parameter	"As Found"	"As Left"
Top Angle	<u>1.11</u> °	<u>1.16</u> °
Bottom Angle	<u>1.10</u> °	<u>1.16</u> °
Internal Angle	<u>1.105</u> °	<u>1.16</u> °

Unloaded External Mold Angle

Pine ACGCA001
 Angle Gage Model

Angle Parameter	"As Found"	"As Left"
Adjustable Link Gap (0.002" to 0.004")	<u>.004</u> "	<u>.002</u> "
Intermediate Link Gap (0.002" to 0.004")	<u>.004</u> "	<u>.002</u> "
Fixed Link Gap (0.0015" to 0.002")	<u>.004</u> "	<u>.005</u> "
Fixed Ring Gap (0.002" to 0.004")	<u>.004</u> "	<u>.0025</u> "
Zero Plane R-L (≤ 0.001")	<u>.005</u> "	<u>Ø</u> "
F-R	<u>.001</u> "	<u>Ø</u> "
Dial Reading 1	<u>3105</u> "	<u>3100</u> "
Dial Reading 2	<u>2005</u> "	<u>1990</u> " 2040
Dial Difference	<u>.1100</u> "	<u>.1130</u> " .140
Unloaded Angle	<u>1.25</u> °	<u>1.28</u> °

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- ☐ Pine AFGC125XA (115 V 60 Hz)
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☐ Pine AFGC125XE (220 V 50 Hz)

015
Serial Number

71 °F
Temperature

4-3-12
Date

Machine Settings

Parameter	"As Found"	"As Left"
Spec. Diameter	<u>150</u> mm	<u>150</u> mm
Pressure	<u>600</u> kPa	<u>600</u> kPa
Compaction Mode	<u>150</u> <input type="checkbox"/> gyr <input checked="" type="checkbox"/> mm	<u>75</u> <input checked="" type="checkbox"/> gyr <input type="checkbox"/> mm
Angle of Gyration	<u>1.105</u> ° <input checked="" type="checkbox"/> int <input type="checkbox"/> ext	<u>1.16</u> ° <input checked="" type="checkbox"/> int <input type="checkbox"/> ext
Squaring Delay	<u>✓</u> s	<u>✓</u> s

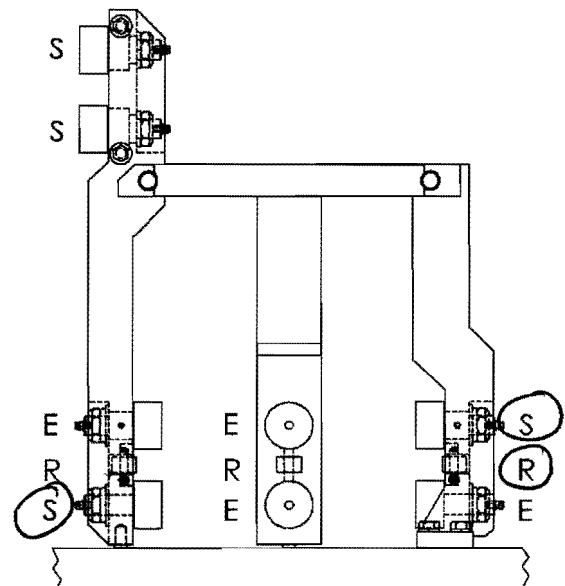
Service Inspection

<input checked="" type="checkbox"/>	Overall Operation & Appearance
<input checked="" type="checkbox"/>	Electrical Ground, VAC input
<input checked="" type="checkbox"/>	E-Stop Interlock
<input checked="" type="checkbox"/>	Door Switch Interlock
<input checked="" type="checkbox"/>	Lift Link Tight
<input checked="" type="checkbox"/>	Tilt Pump Operation / Fluid Level
<input checked="" type="checkbox"/>	Tilt Limit Switches
<input checked="" type="checkbox"/>	Ram Drive Belt Tension
<input checked="" type="checkbox"/>	Ram Key
<input checked="" type="checkbox"/>	Ball Nut Tight
<input checked="" type="checkbox"/>	Fan Filter Replaced
<input checked="" type="checkbox"/>	Fixed Ring
<input checked="" type="checkbox"/>	Fixed Ring Rollers
<input checked="" type="checkbox"/>	Ram Foot
<u>2</u> <input checked="" type="checkbox"/>	Carriage Rollers
<u>1</u> <input checked="" type="checkbox"/>	Guide Rollers
<input checked="" type="checkbox"/>	Carriage Base Cog
<input checked="" type="checkbox"/>	Bearing Cap Condition
<u>1.0015</u> <input checked="" type="checkbox"/>	Base Bearing Clearance (< 0.008")
<input checked="" type="checkbox"/>	Chain Tension
<input checked="" type="checkbox"/>	Extruder Cylinder/Pump
<input checked="" type="checkbox"/>	Batteries Replaced
<input checked="" type="checkbox"/>	Date / Time Correct
<input checked="" type="checkbox"/>	Printer Port
<input checked="" type="checkbox"/>	Serial Port

Service Lubrication

<input checked="" type="checkbox"/>	Ram Foot (daily, MoS ₂ powder)
<input checked="" type="checkbox"/>	Bearing Cap (daily, MoS ₂ powder)
<input checked="" type="checkbox"/>	Fixed Ring (annual, SAE 30 oil)
<input checked="" type="checkbox"/>	Ball Screw Bearings (annual, MoS ₂ grease)
<input checked="" type="checkbox"/>	Ball Screw (annual, MoS ₂ grease)
<input checked="" type="checkbox"/>	Rollers (annual, MoS ₂ grease)
<input checked="" type="checkbox"/>	Extruder Handle (annual, MoS ₂ grease)
<input checked="" type="checkbox"/>	Base Bearing (annual, MoS ₂ grease)
<input checked="" type="checkbox"/>	Drive Chain (annual, SAE 30 oil)

Rollers Replaced (circled)



Loaded External Angle of Gyration*

A1	<u>.2500</u> "	<u>.2500</u> "	B1
A2	"	"	B2
A3	"	"	B3

*Applicable only when required

Notes REPLACED ELF7RX LAMP
2 straight rollers
1 vent roller

**Gyratory Compactor Certificate of Calibration
and Traceability to the United States
National Institute of Standards and Technology**

Gyratory Compactor Information

PINE AFGC125X 015 UNIVERSITY OF ARK Fayetteville 70
Manufacturer and Model Serial Number SGC Owner (Company Name) and Location AR Temperature

Rate of Gyration

- ☐ Calibration service for the rate of gyration **was not** performed.
☒ The rate of gyration was standardized to 30.0 ± 0.5 gyrations per minute using a digital stopwatch.

Consolidation Pressure

- ☐ Calibration service for the consolidation pressure was not performed.
☒ The consolidation pressure measurement system was calibrated to within $\pm 1.0\%$ by calibrating the applied force, using the following apparatus:

☒ Pine AFGCLR05C load ring (5000 lbf) SN 1280 Calibration Date 01/10/2012
NIST # 822/255038-95
☐ Interface 1210BDE-5K load cell (5000 lbf) SN 151809A Calibration Date 10/06/2011
with Newport INFCS-000 A/E meter SN 4015069 NIST # 822/255038-95

Specimen Height Measurement

- ☐ Calibration service for the specimen height measurement system was not performed.
☒ The specimen height measurement system was calibrated to within ± 0.05 mm (± 0.002 in) using the following apparatus:

☒ Pine AFG123 Gage Block Set SN 1280-1A, Calibration Date 01/12/2012
1B, 2A, 2B NIST # 08A014.9501
☐ Pine AFGBA04 Calibration Tube SN 040942 Calibration Date 10/06/2011
NIST # 08A014.9501

Angle of Gyration

- ☐ Calibration service for the angle of gyration **was not** performed.
☐ The external angle of gyration was calibrated under simulated loading conditions to $1.25 \pm 0.02^\circ$ per equipment manufacturer instructions.
☒ The internal angle of gyration was calibrated to $1.16 \pm 0.02^\circ$ per AASHTO TP71 / ASTM D7115 Standard Test Method for Measurement of Superpave Gyratory Compactor (SGC) Internal Angle of Gyration Using Simulated Loading with a room temperature mold.

Pine AFLS1 Rapid Angle Measurement Device SN 005 Calibration Date 10/06/2011
NIST # 08A014.9501

Calibration Service Provider

I hereby certify the standardization services have been performed properly, and that I am an authorized representative of a service organization authorized by Pine Instrument Company.

Mark Downing 4-3-12 Pine Test Equipment, LLC., Grove City, PA, (724) 458-6391
Technician (sign here) Date Service Organization (name and location)