

40 SERIES



Temperature Cables on 40- Series Bins

Models:
54 FT. - 156 FT.

Instruction Manual

PNEG-1924
Version 4.1

Date: 10-11-20



PNEG-1924

All information, illustrations, photos, and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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NOTES

1 Safety Precautions

Topics Covered in this Chapter

- Safety Guidelines for Bins
- Cautionary Symbol Definitions
- Safety Cautions
- Safety Decals
- Safety Sign-off Sheet

Safety Guidelines for Bins

Safety guidelines must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Save these safety guidelines for future reference.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in **SERIOUS INJURY** or **DEATH**.

This equipment must be installed in accordance with the current installation codes and applicable regulations, which should be carefully followed in all cases. Authorities having jurisdiction must be consulted before installations are made.

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.

Personnel operating or working around equipment must read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

This product is intended for the use of grain storage only. Any other use is a misuse of the product.

Sidewall bundles or sheets must be stored in a safe manner. The safest method of storing sidewall bundles is by laying them horizontally with the arch of the sheet upward, like a dome. Sidewall sheets stored on edge must be secured so that they cannot fall over and cause injury. Use care when handling and moving sidewall bundles.










This product has sharp edges, which may cause serious injury. To avoid injury, handle sharp edges with caution and always use proper protective clothing and equipment.

ST-0035

Cautionary Symbol Definitions

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.

Table 1-1 Description of the different cautionary symbols

Symbol	Description
	This symbol indicates an imminently hazardous situation which, if not avoided, will result in serious injury or death.
	This symbol indicates a potentially hazardous situation which, if not avoided, can result in serious injury or death.
	This symbol indicates a potentially hazardous situation which, if not avoided, can result in minor or moderate injury.
	This symbol is used to address practices not related to personal injury.
	This symbol indicates a general hazard.
	This symbol indicates a prohibited activity.
	This symbol indicates a mandatory action.

ST-0005-2

Safety Cautions

Use Personal Protective Equipment

- Use appropriate personal protective equipment:

Eye Protection



Respiratory Protection



Foot Protection



Hearing Protection



Head Protection



Fall Protection



Hand Protection



- Wear clothing appropriate to the job.
- Remove all jewelry.
- Tie long hair up and back.

ST-0004-1

Follow Safety Instructions

- Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.
- Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.
- If you do not understand any part of this manual or need assistance, contact your dealer.



ST-0002-1

Maintain Equipment and Work Area

- Understand service procedures before doing work. Keep area clean and dry.
- Never service equipment while it is operating. Keep hands, feet, and clothing away from moving parts.
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.



ST-0003-1

Do Not Enter Bin

- Rotating flighting will kill or dismember.
 - Flowing material will trap and suffocate.
 - Crusted material will collapse and suffocate.
- If you must enter the bin:
1. Shut off and lock out all power sources.
 2. Use a safety harness and safety line.
 3. Station another person outside the bin.
 4. Avoid the center of the bin.
 5. Wear proper breathing equipment or respirator.

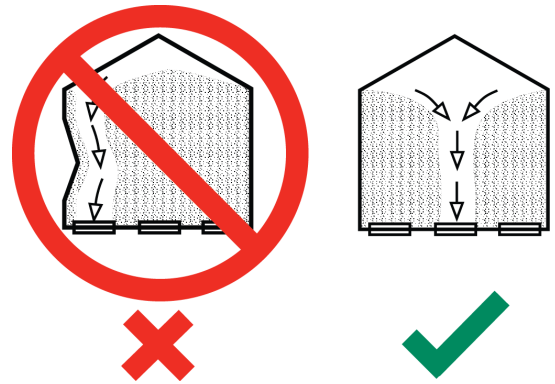


ST-0061-1

Chapter 1: Safety Precautions

Unload the Bin Correctly

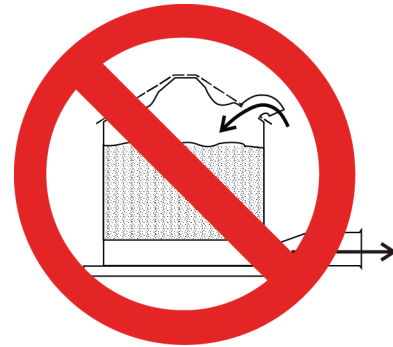
- Use CENTER FLOOR OUTLET ONLY until NO grain remains above this outlet.
- Side floor outlets to be used ONLY when above condition is satisfied.
- Lock all side floor outlets to avoid accidental premature use.
- See manufacturers instructions for proper use of factory supplied sidedraw (wall) discharge systems.



ST-0060-1

Prevent Roof Damage Due to Vacuum Pressure

- Roof damage can result from excessive vacuum or internal pressure from fans or other air moving systems. The manufacturer does not warrant this type of roof damage.
- Adequate ventilation or “makeup air” devices must be provided for all powered air handling systems.
- The manufacturer does not recommend the use of downward flow systems (suction).
- Severe roof damage can result from any blockage of air passages.
- Operating fans during high humidity or cold weather conditions can cause air exhaust or intake ports to freeze.



ST-0028-2

Sharp Edge Hazard

- This product has sharp edges, which can cause serious injury.
- To avoid injury, handle sharp edges with caution and always use proper protective clothing and equipment.



ST-0036-2

Rotating Auger Hazard

- Keep clear of rotating augers and moving parts.
- Do not remove or modify guards or covers.
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.
- Failure to follow these precautions will result in serious injury or death.



ST-0037-1

Stay Clear of Hoisted Equipment

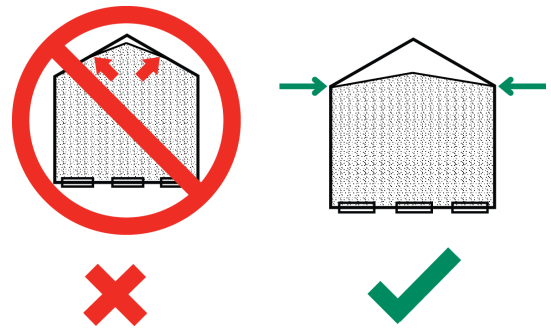
- Always use proper lifting or hoisting equipment when assembling or disassembling equipment
- Do not walk or stand under hoisted equipment.
- Always use sturdy and stable supports when needed for installation. Not following these safety precautions creates the risk of falling equipment, which can crush personnel and cause serious injury or death.



ST-0047-1

Do Not Overfill the Bin

- Do not overfill bin. Stored grain must be no higher than the roof eaves at the outer edge.
- Filling the bin above this point creates excessive internal pressure and can cause swelling and eventual roof failure. The over filling of a bin can also cause the blockage of roof vents and eaves, which will lead to a build-up of air pressure causing roof damage.



ST-0050-1

Install and Operate Equipment Properly

- This product is intended for the use of grain storage only. Any other use is a misuse of the product.



ST-0057-1

Store Bin Sheets Properly

- Sidewall bundles or sheets must be stored in a safe manner. The safest method of storing sidewall bundles is by laying them horizontally with the arch of the sheet upward, like a dome.
- Sidewall sheets stored on edge must be secured so that they cannot fall over and cause injury.
- Use care when handling and moving sidewall bundles.



ST-0058-2

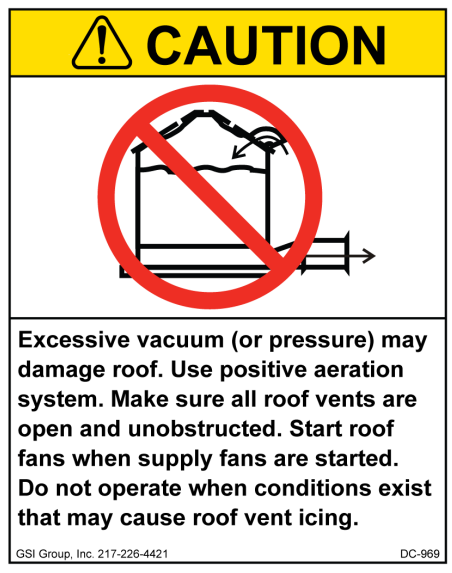
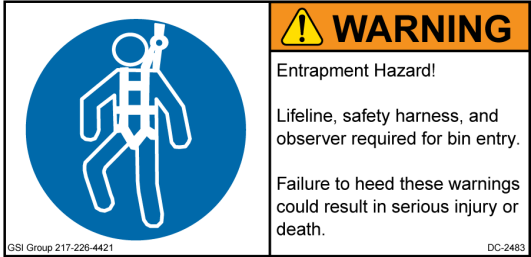
Safety Decals

The safety decals on your equipment are safety indicators which must be carefully read and understood by all personnel involved in the installation, operation, service and maintenance of the equipment.



To replace a damaged or missing decal, contact us to receive a free replacement.

GSI Decals

1004 E. Illinois Street
 Assumption, IL 62510
 Phone: 1-217-226-4421

Location	Decal No.	Decal	Description
Located next to aeration system.	DC-969		Caution Vacuum Pressure
On bin doors and roof hatch covers	DC-2483		Warning Entrapment Hazard

Chapter 1: Safety Precautions

Location	Decal No.	Decal	Description
On bin door covers	DC-GBC-1A	 <p>WARNING</p> <p>Rotating flighting could kill or dismember. Flowing material could trap and suffocate. Crusted material could collapse and suffocate.</p> <p>Keep clear of all augers. DO NOT ENTER this bin!</p> <p>If you must enter the bin:</p> <ol style="list-style-type: none"> 1. Shut off and lock out all power. 2. Use a safety harness and safety line. 3. Station another person outside the bin. 4. Avoid the center of the bin. 5. Wear proper breathing equipment or respirator. <p>Failure to heed these warnings could result in serious injury or death.</p> <p><small>OSI GROUP, INC. 317-236-4421 DC-GBC-1A</small></p>	Warning Keep Clear of Augers
On bin door covers	DC-GBC-2A	 <p>WARNING</p> <p>UNLOADING INSTRUCTIONS:</p> <ol style="list-style-type: none"> 1. Use CENTER FLOOR OUTLET ONLY until NO grain remains above this outlet. 2. Side floor outlets to be used ONLY when above condition is satisfied. 3. Lock all side floor outlets to avoid accidental premature use. 4. See manufacturers instructions for proper use of factory supplied sidedraw (wall) discharge systems. <p>Failure to heed these warnings could result in serious injury, death, structural damage or collapse of tank.</p> <p><small>OSI GROUP, INC. 317-236-4421 DC-GBC-2A</small></p>	Warning Unload Instructions

Safety Sign-off Sheet

Below is a sign-off sheet that can be used to verify that all personnel have read and understood the safety instructions. This sign-off sheet is provided for your convenience and personal record keeping.

Date	Employee Name	Supervisor Name

ST-0007

NOTES

2 Temperature Cable Guidelines

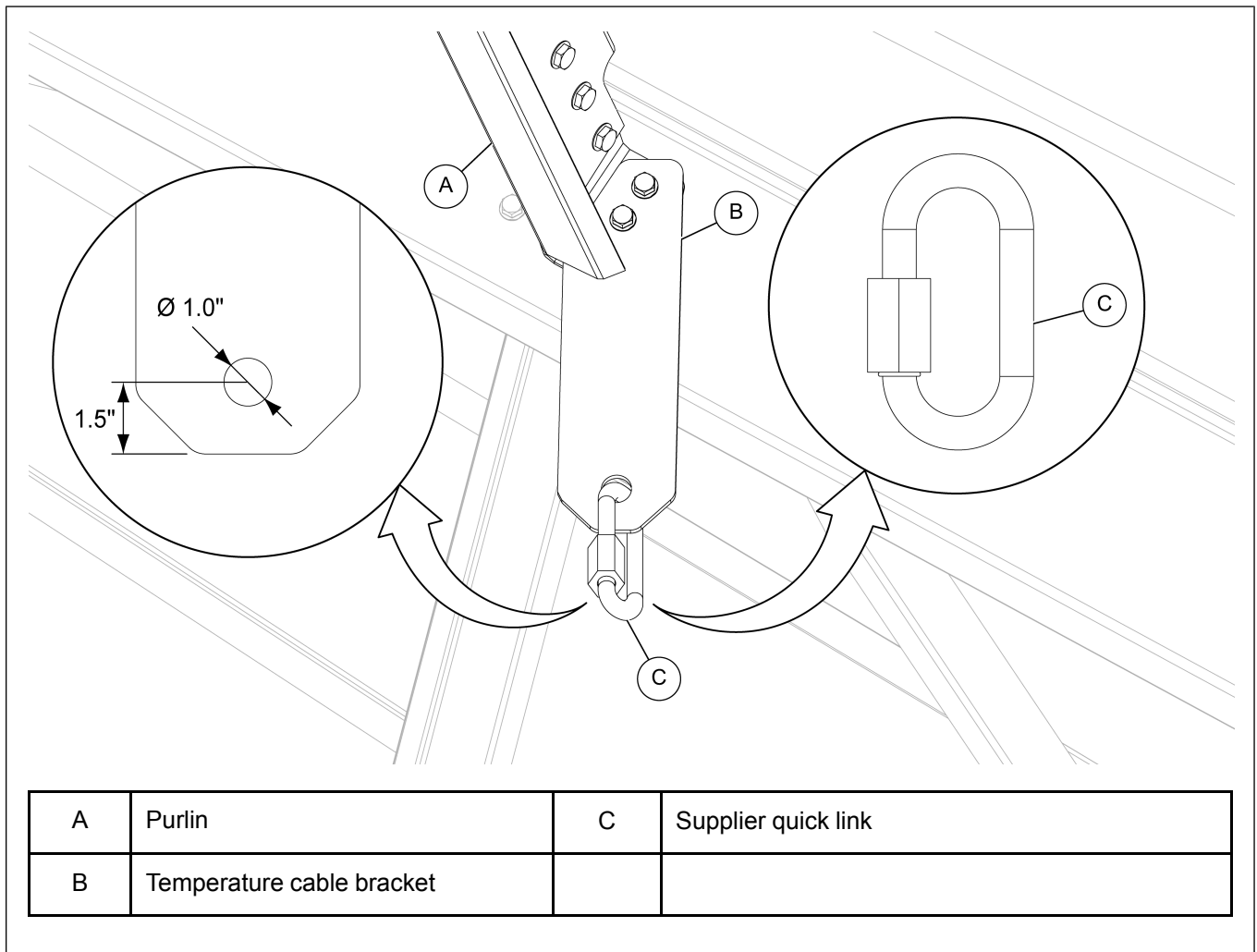
Topics Covered in this Chapter

- Temperature Cable Guidelines for 40-Series Bins Equipped with the Z-Tek™ Roofing System.

Temperature Cable Guidelines for 40-Series Bins Equipped with the Z-Tek™ Roofing System.

Temperature cable brackets are provided by GSI as standard equipment on all 40-Series Bins equipped with the Z-Tek™ roofing system. GSI supplied temperature cable brackets are the only approved method for support of any temperature/moisture cables. All temperature cable brackets must be installed at the specified locations as shown in this document. Any variation from this pattern or cable quantity must be approved by GSI Engineering.

Figure 2-1 Typical rafter mounting using GSI supplied temperature cable bracket (54-135 ft.)



Chapter 2: Temperature Cable Guidelines

Figure 2-2 Typical rafter mounting using GSI supplied temperature cable bracket (156 ft.)

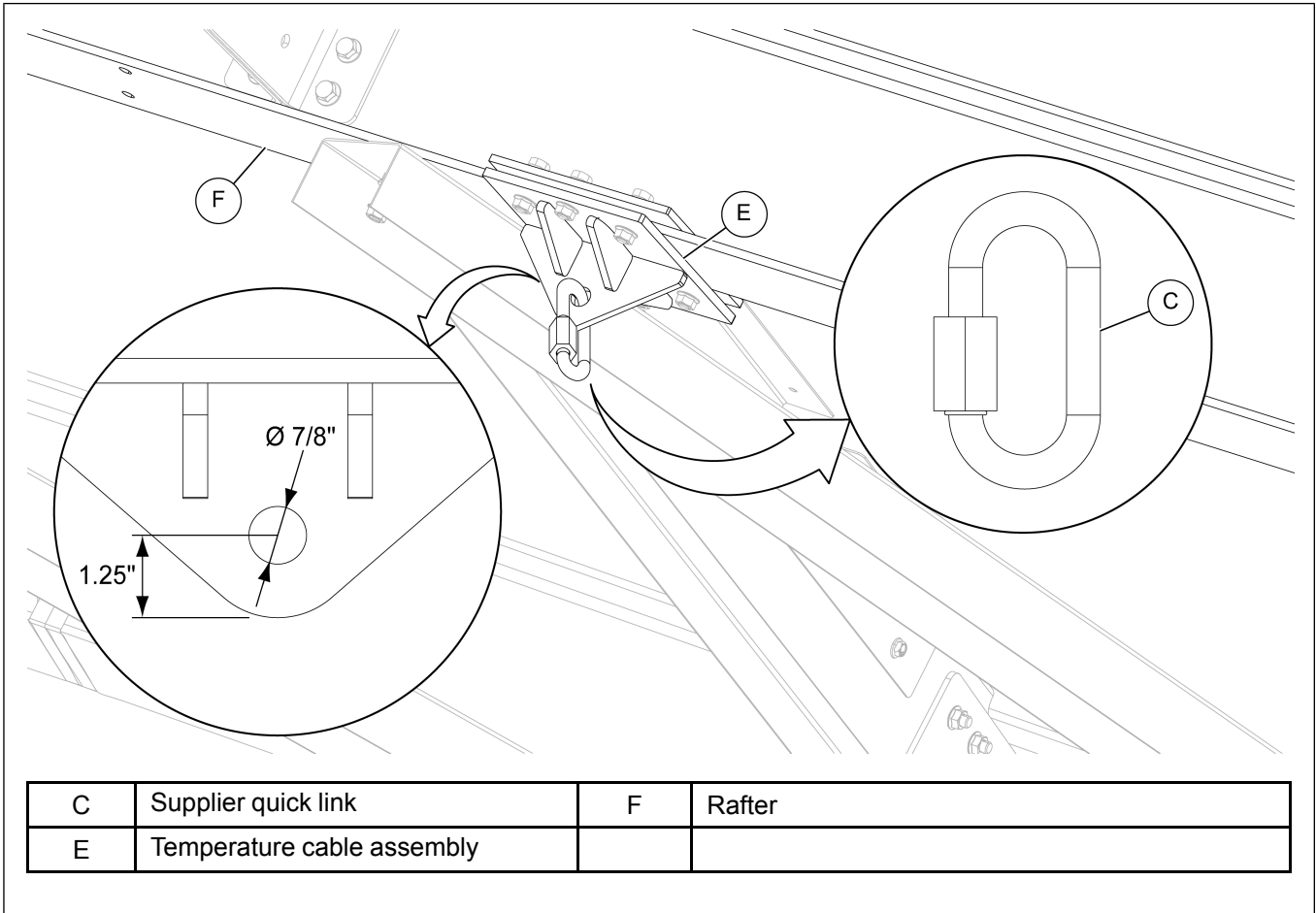


Figure 2-3 Typical center collar installation (where applicable)

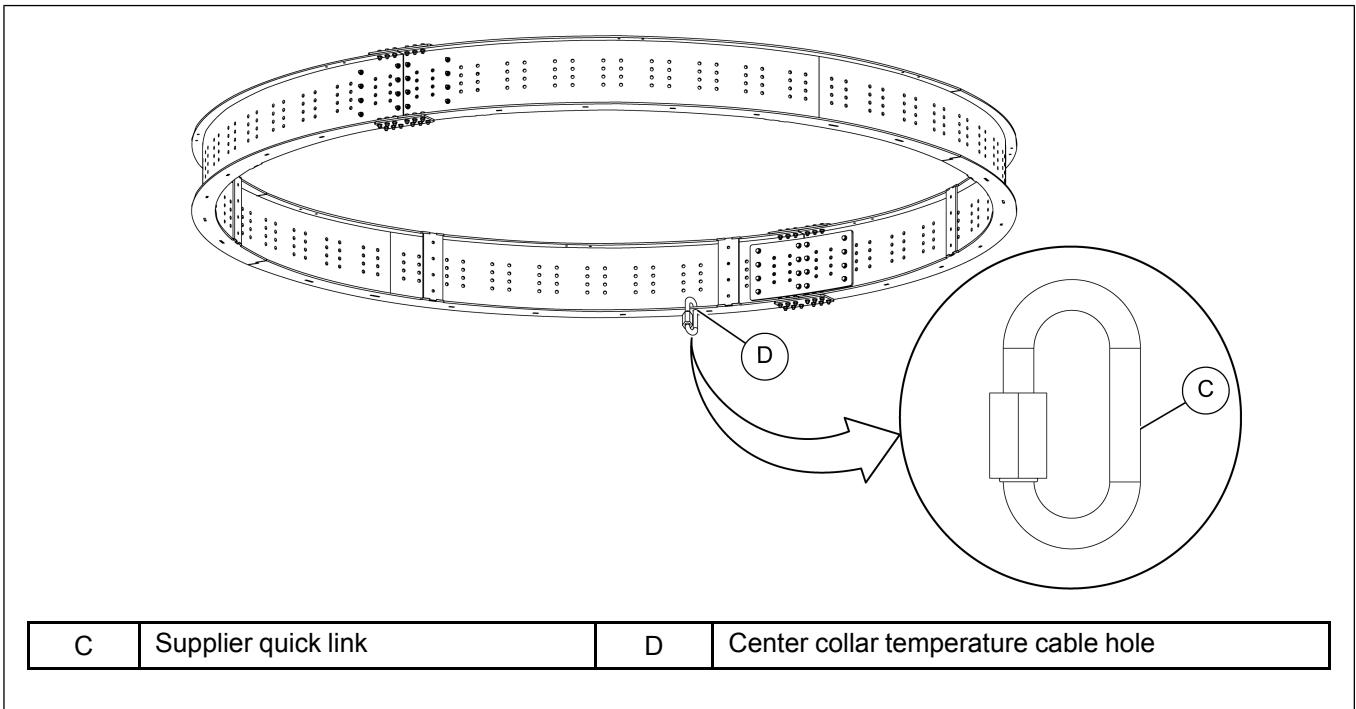
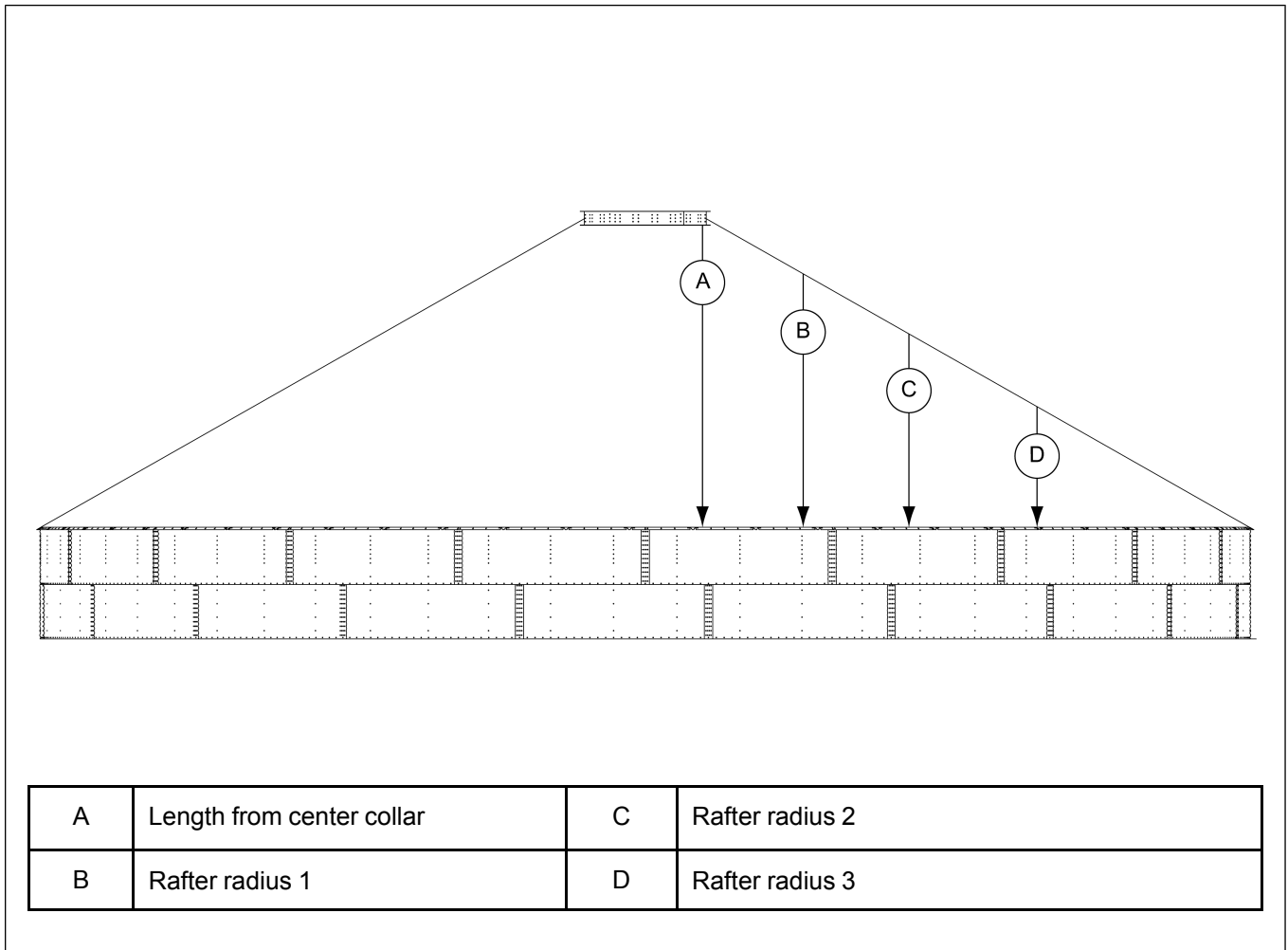


Figure 2-4 Starting lengths for temperature cables



NOTE: Starting lengths for temperature cables are measured from the temperature cable bracket on the rafter to the top of the top ring. Temperature cables are located on specific rafter radius locations and each rafter radius will vary for each bin diameter.

Chapter 2: Temperature Cable Guidelines

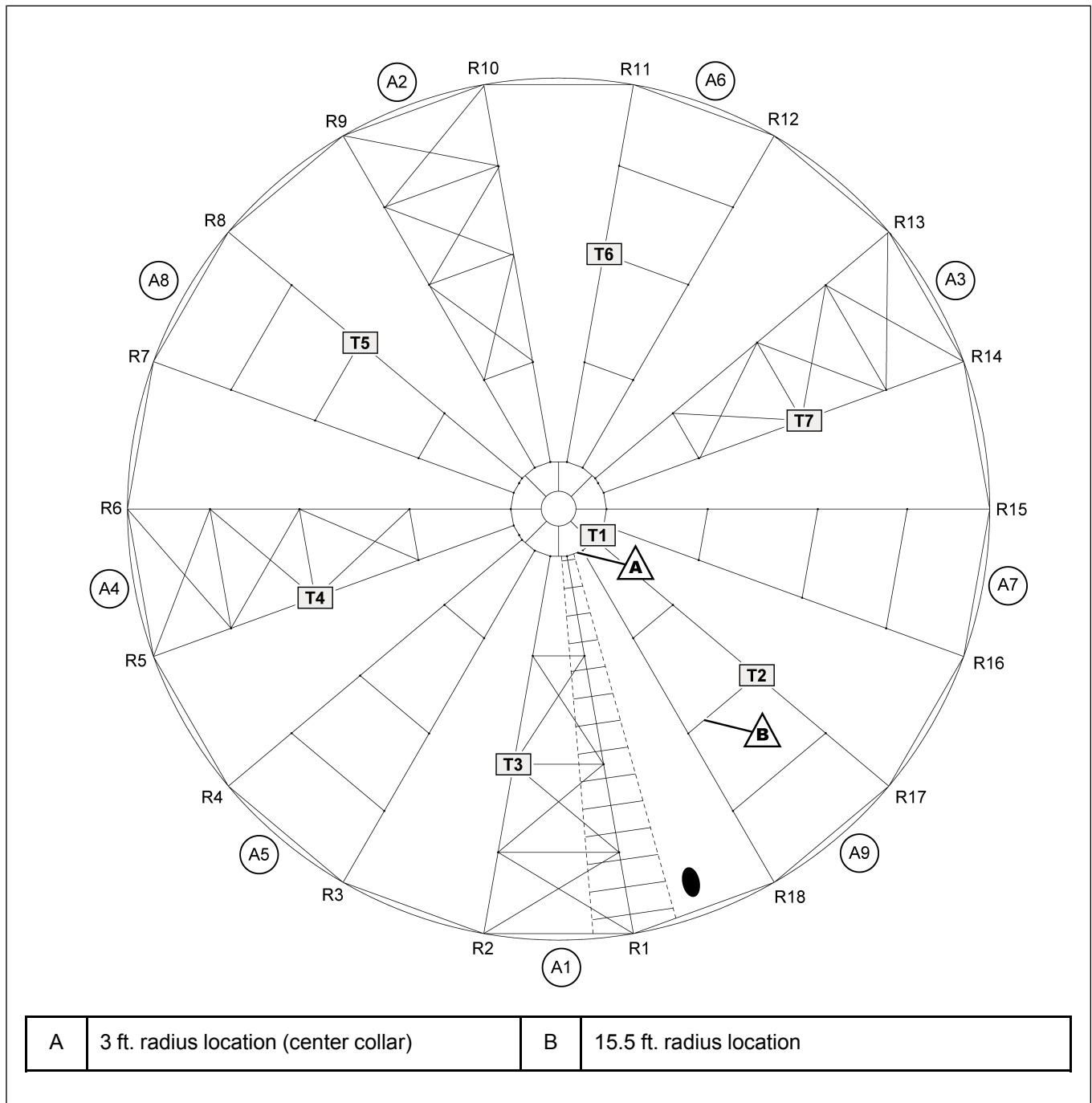
54 ft. Diameter Bin

Table 2-1 Starting lengths for temperature cables for 54 ft. diameter bins

Length from the center collar 3 ft.	223.7 in. (568.20 cm)
Length from 15.5 ft. diameter location	130.8 in. (332.23 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. DO NOT allow cables to become tangled in unload equipment.

Figure 2-5 Temperature cable locations for 54 ft. diameter bin



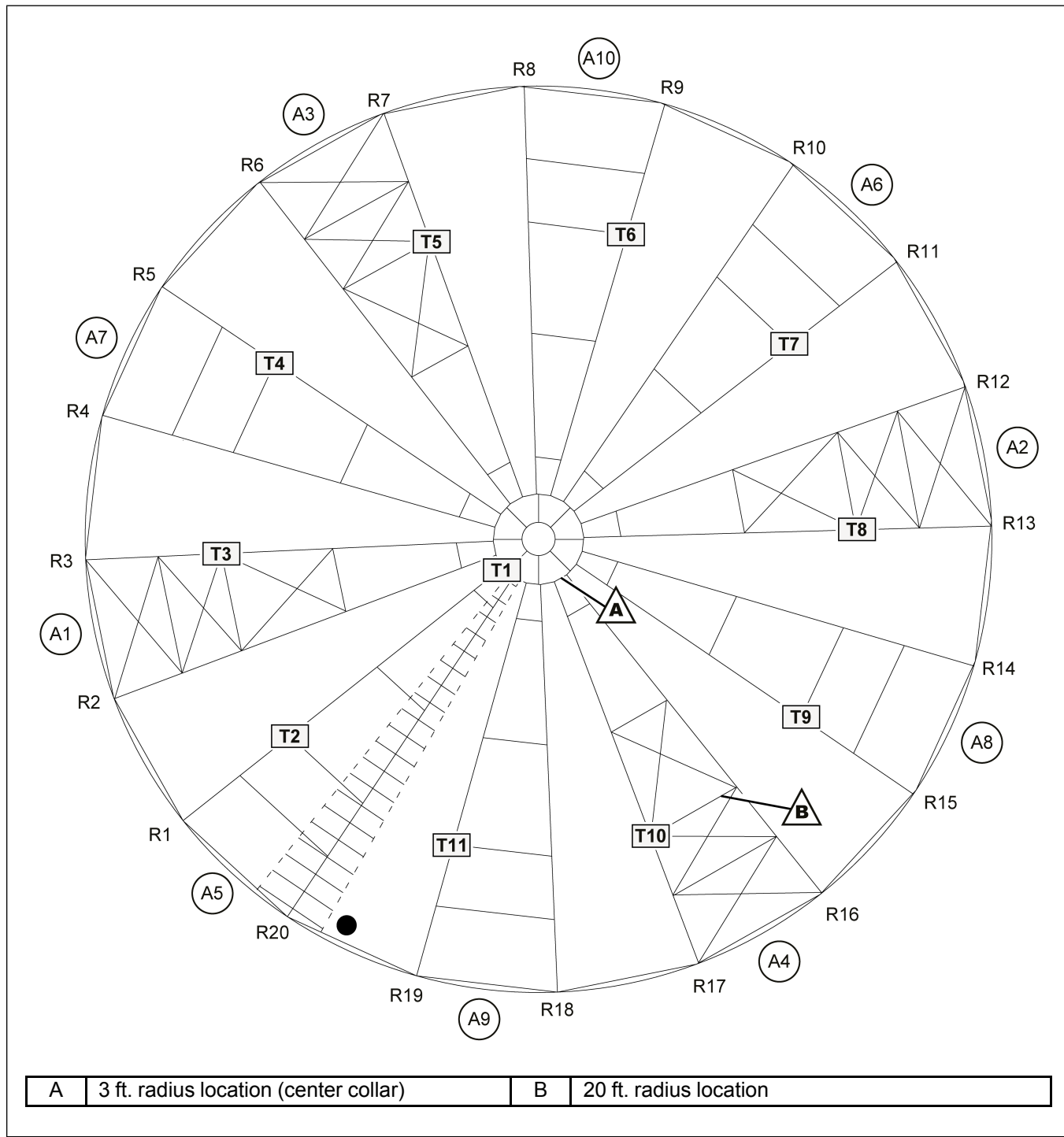
60 ft. Diameter Bin

Table 2-2 Starting lengths for temperature cables for 60 ft. diameter bins

Length from the center collar 3 ft.	179.8 in. (434.06 cm)
Length from 20 ft. diameter location	58.1 in. (147.57 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. DO NOT allow cables to become tangled in unload equipment.

Figure 2-6 Temperature cable locations for 60 ft. diameter bin



Chapter 2: Temperature Cable Guidelines

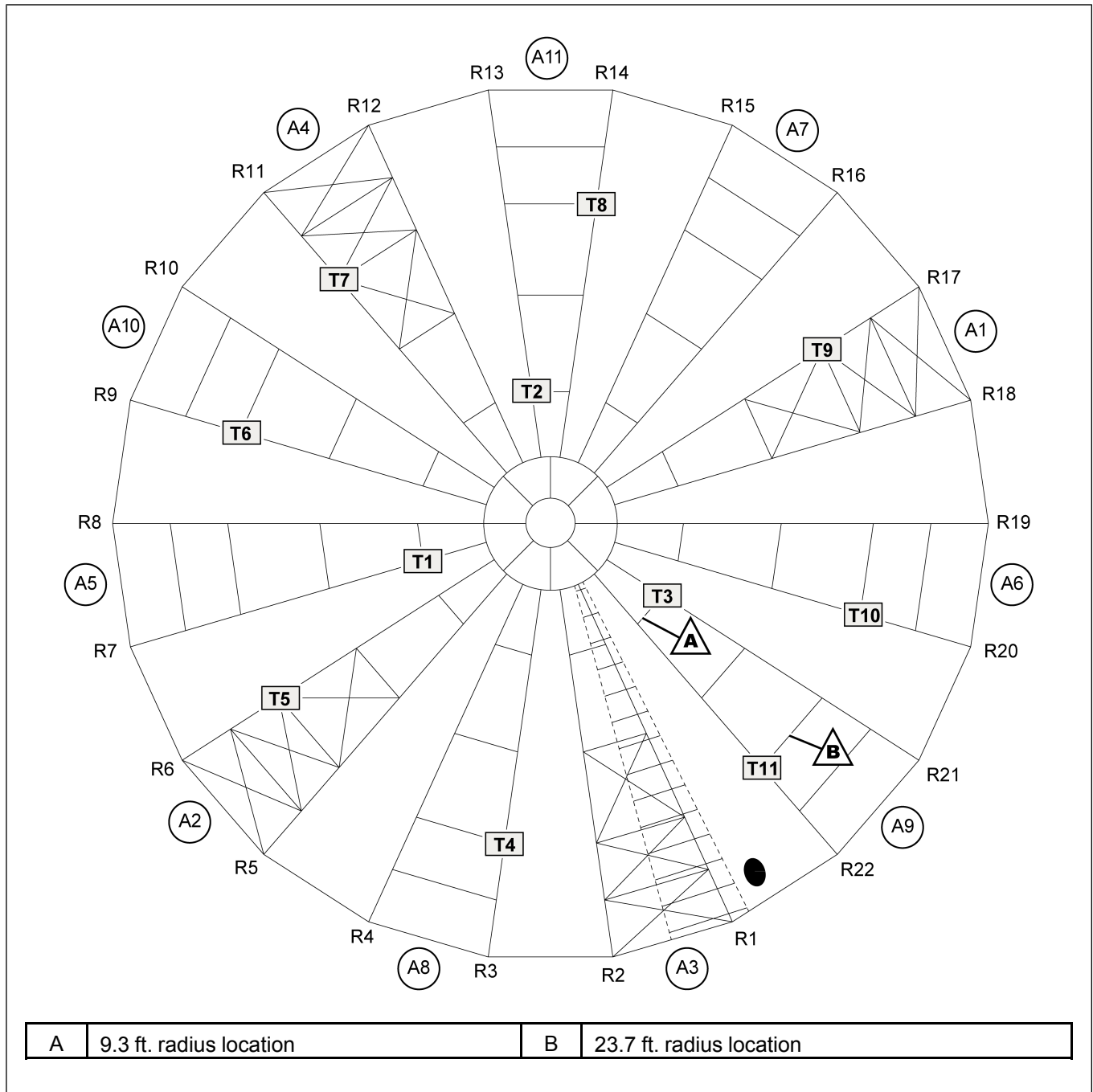
66 ft. Diameter Bin

Table 2-3 Starting lengths for temperature cables for 66 ft. diameter bins

Length from the center collar	None
Length from 9.3 ft. radius location	154 in. (391.16 cm)
Length from 23.7 ft. radius location	53 in. (134.62 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. DO NOT allow cables to become tangled in unload equipment.

Figure 2-7 Temperature cable locations for 66 ft. diameter bin



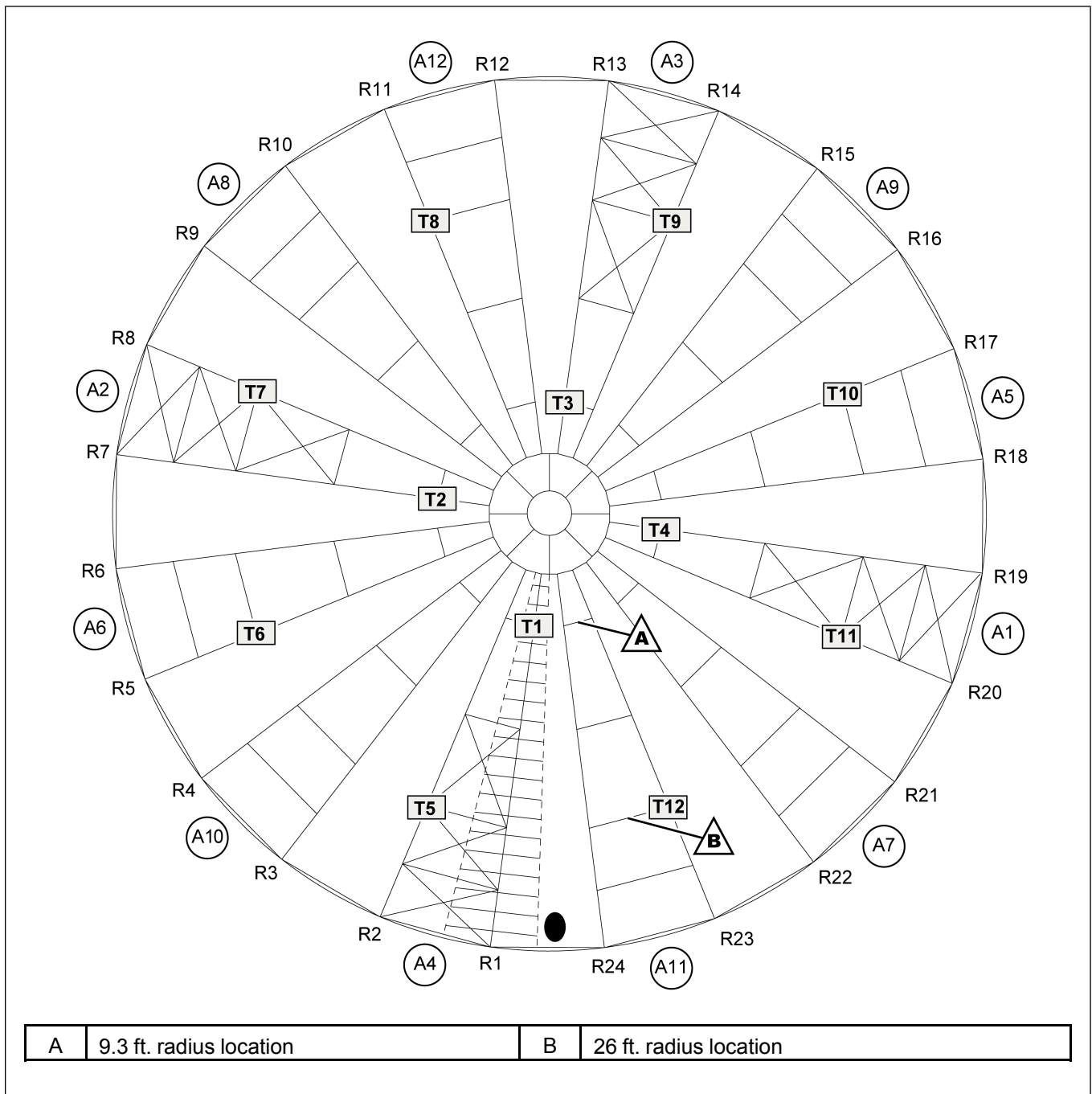
72 ft. Diameter Bin

Table 2-4 Starting lengths for temperature cables for 72 ft. diameter bins

Length from the center collar	None
Length from 9.3 ft. diameter location	179.2 in. (455.17 cm)
Length from 26 ft. diameter location	59.6 in. (151.38 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. DO NOT allow cables to become tangled in unload equipment.

Figure 2-8 Temperature cable locations for 72 ft. diameter bin



Chapter 2: Temperature Cable Guidelines

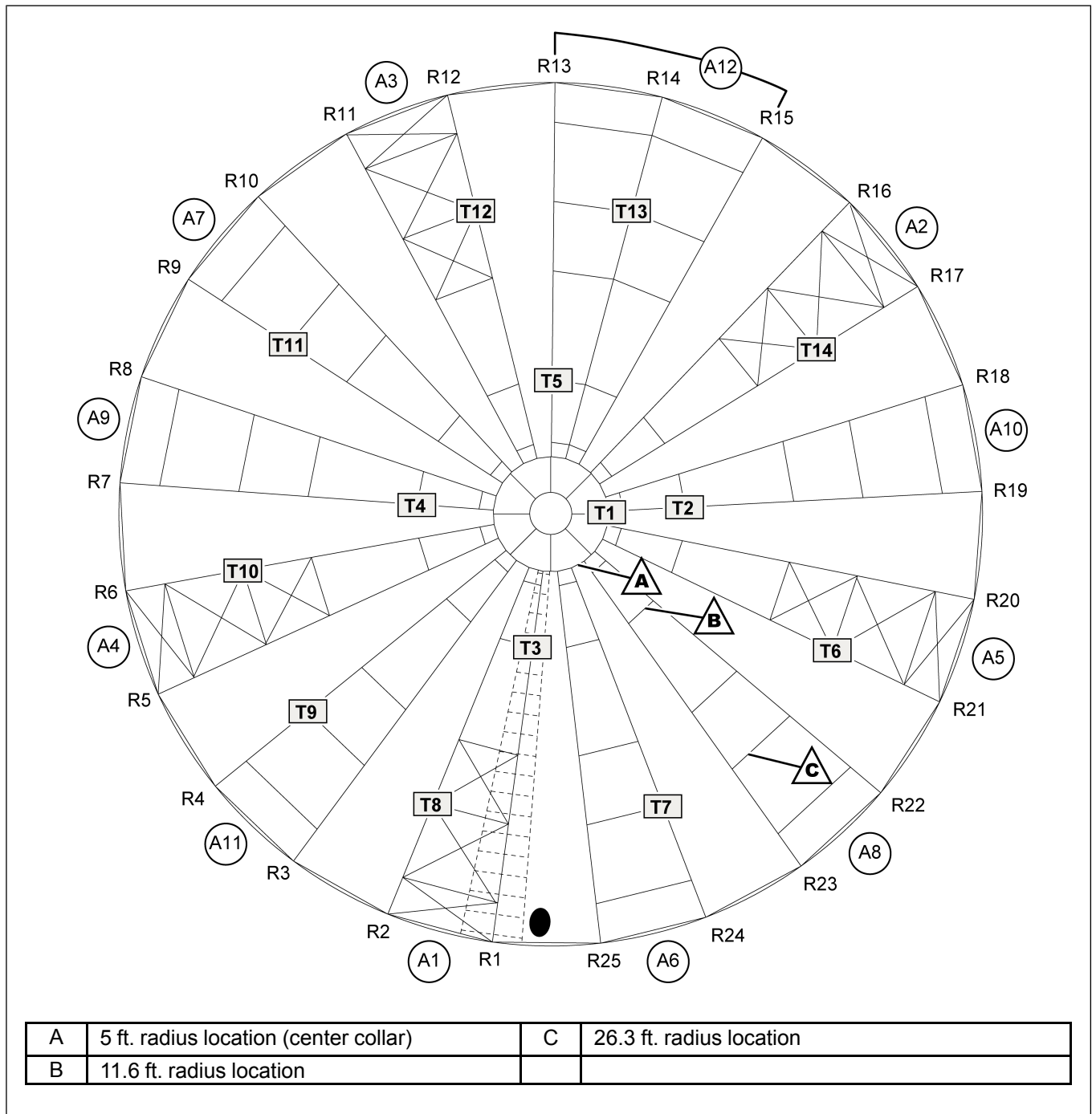
75 ft. Diameter Bin

Table 2-5 Starting lengths for temperature cables for 75 ft. diameter bins

Length from the center collar 5 ft.	216.1 in. (548.89 cm)
Length from 11.6 ft. diameter location	148.5 in. (377.19 cm)
Length from 26.3 ft. diameter location	56.6 in. (143.76 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. **DO NOT** allow cables to become tangled in unload equipment.

Figure 2-9 Temperature cable locations for 75 ft. diameter bin



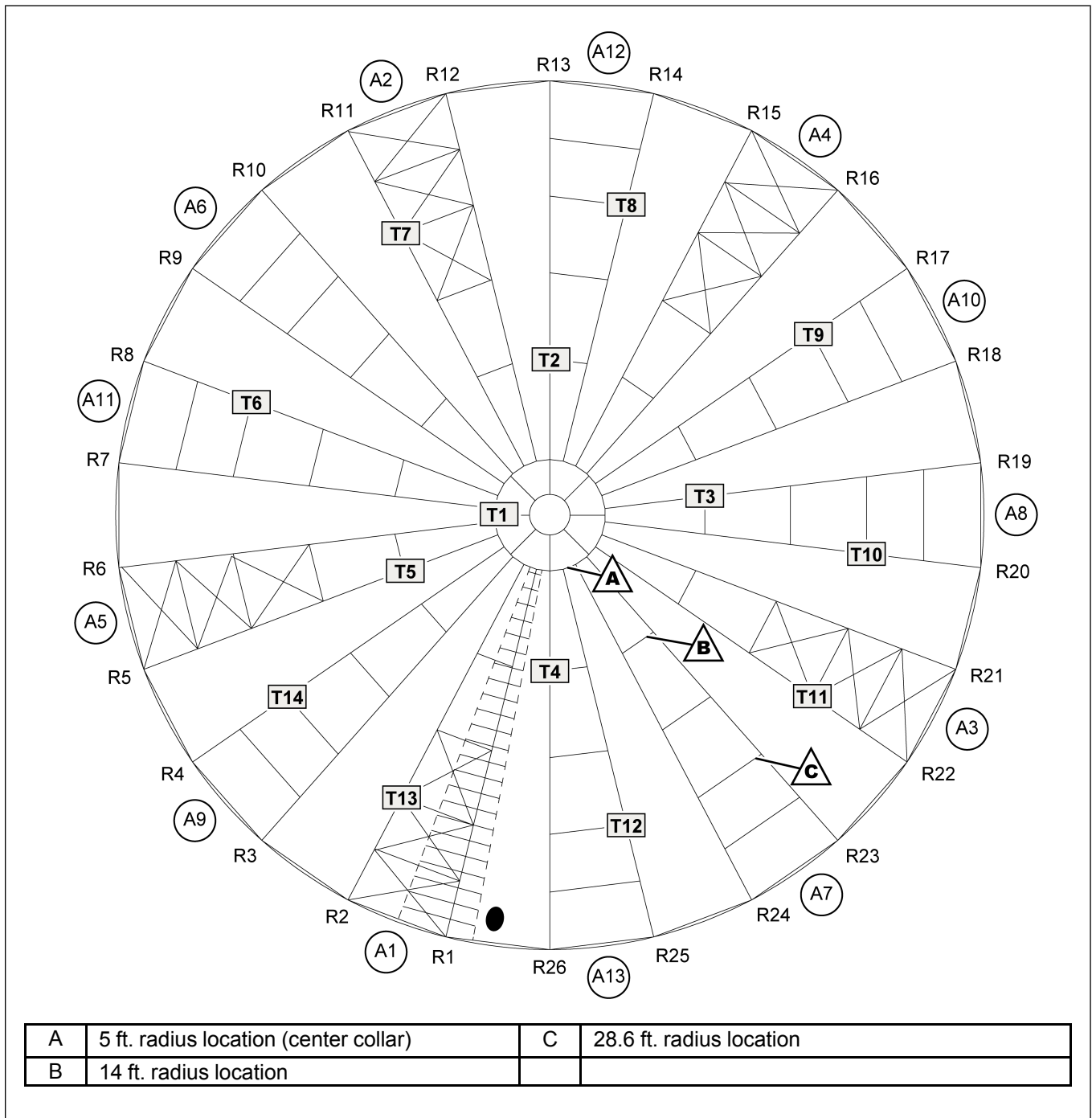
78 ft. Diameter Bin

Table 2-6 Starting lengths for temperature cables for 78 ft. diameter bins

Length from the center collar 5 ft.	226.7 in. (575.82 cm)
Length from 14 ft. diameter location	166.8 in. (423.67 cm)
Length from 28.6 ft. diameter location	62.6 in. (159 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. DO NOT allow cables to become tangled in unload equipment.

Figure 2-10 Temperature cable locations for 78 ft. diameter bin



Chapter 2: Temperature Cable Guidelines

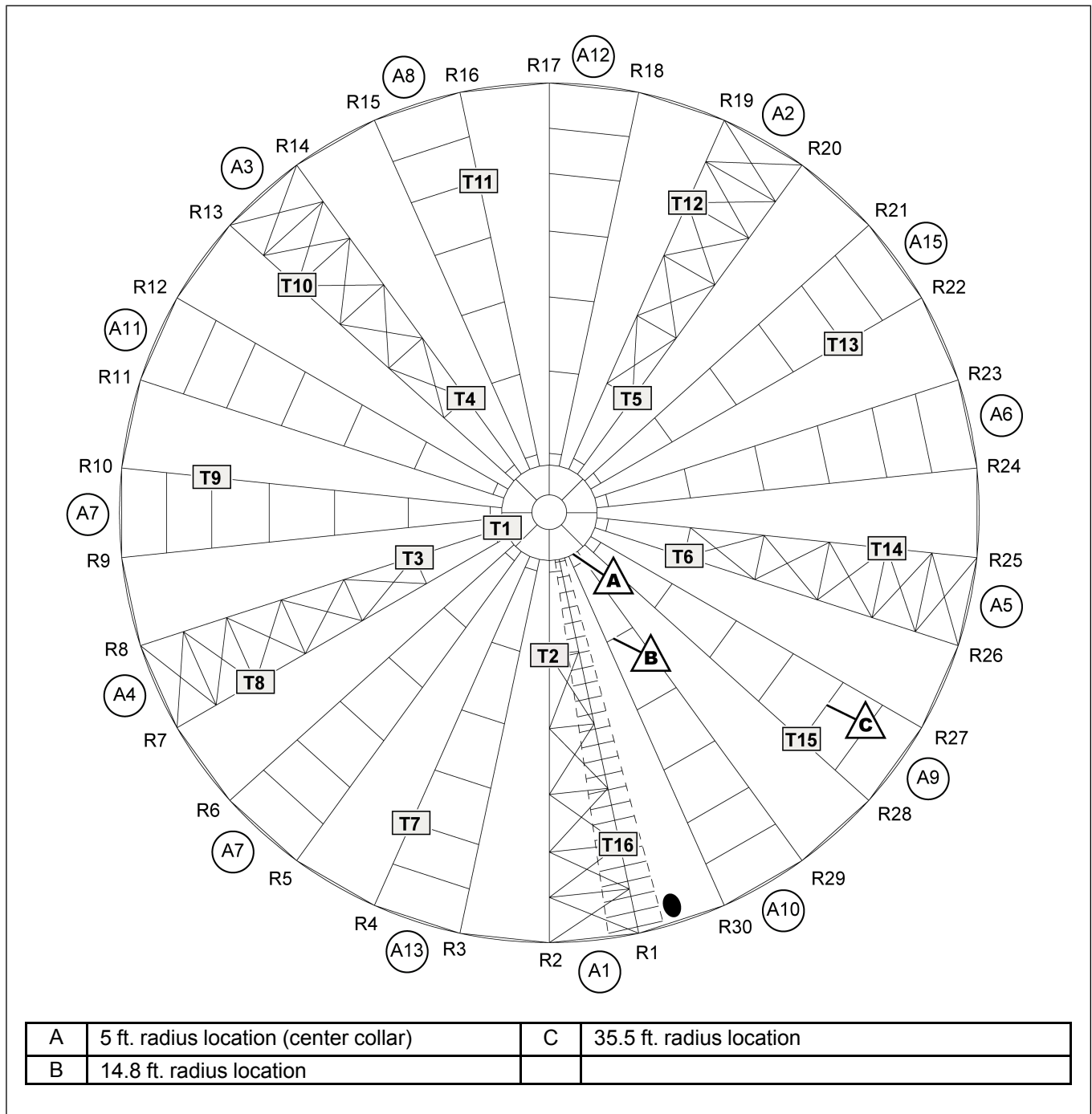
90 ft. Diameter Bin

Table 2-7 Starting lengths for temperature cables for 90 ft. diameter bins

Length from the center collar 5 ft.	268.9 in. (683.01 cm)
Length from 14.8 ft. diameter location	202.1 in. (513.33 cm)
Length from 35.5 ft. diameter location	55.4 in. (140.72 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. **DO NOT** allow cables to become tangled in unload equipment.

Figure 2-11 Temperature cable locations for 90 ft. diameter bin



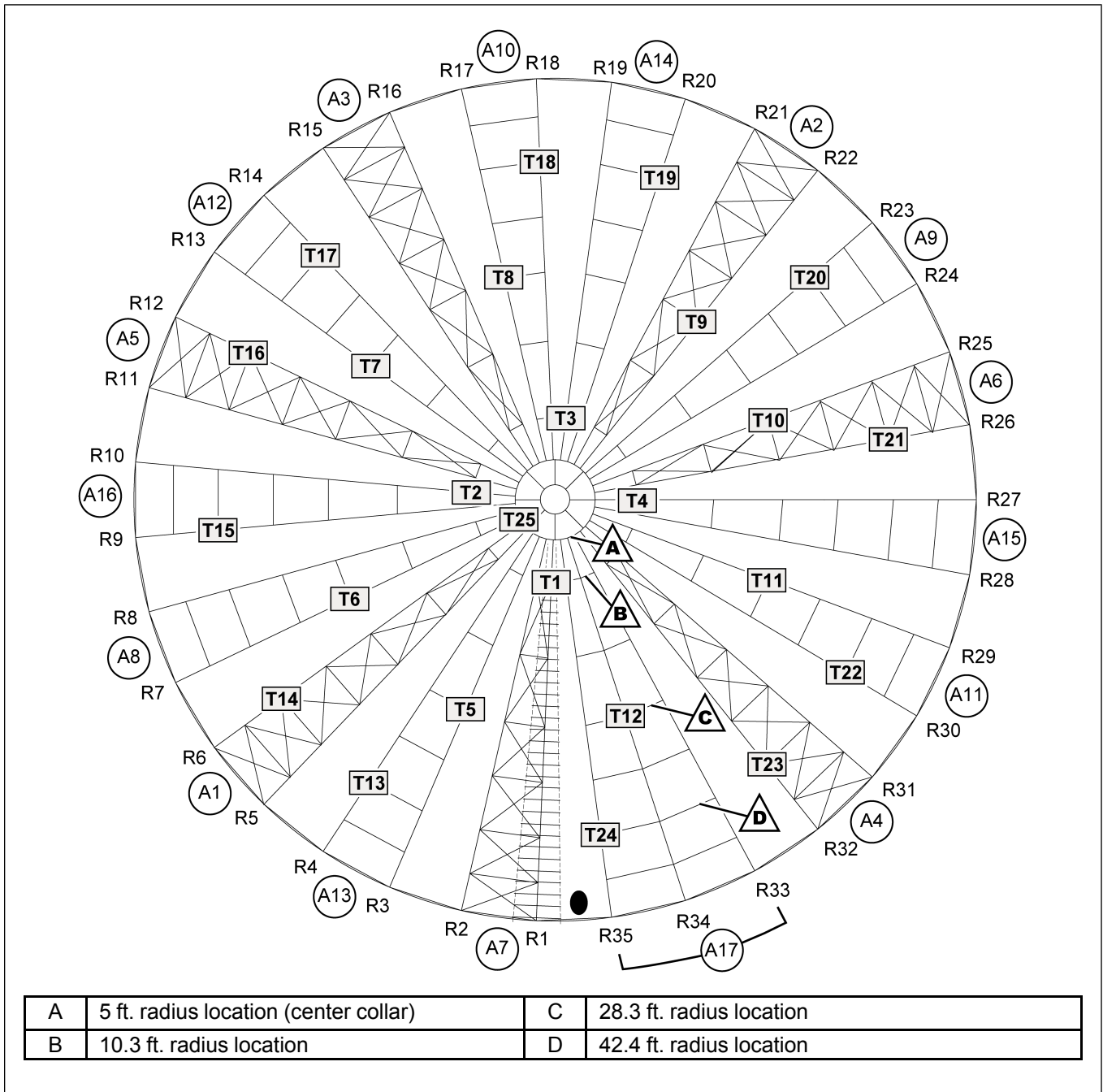
105 ft. Diameter Bin

Table 2-8 Starting lengths for temperature cables for 105 ft. diameter bins

Length from the center collar 5 ft.	321.4 in. (816.36 cm)
Length from 10.3 ft. diameter location	288.3 in. (732.28 cm)
Length from 28.3 ft. diameter location	160.1 in. (406.65 cm)
Length from 42.4 ft. diameter location	62.5 in. (158.75 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. DO NOT allow cables to become tangled in unload equipment.

Figure 2-12 Temperature cable locations for 105 ft. diameter bin



Chapter 2: Temperature Cable Guidelines

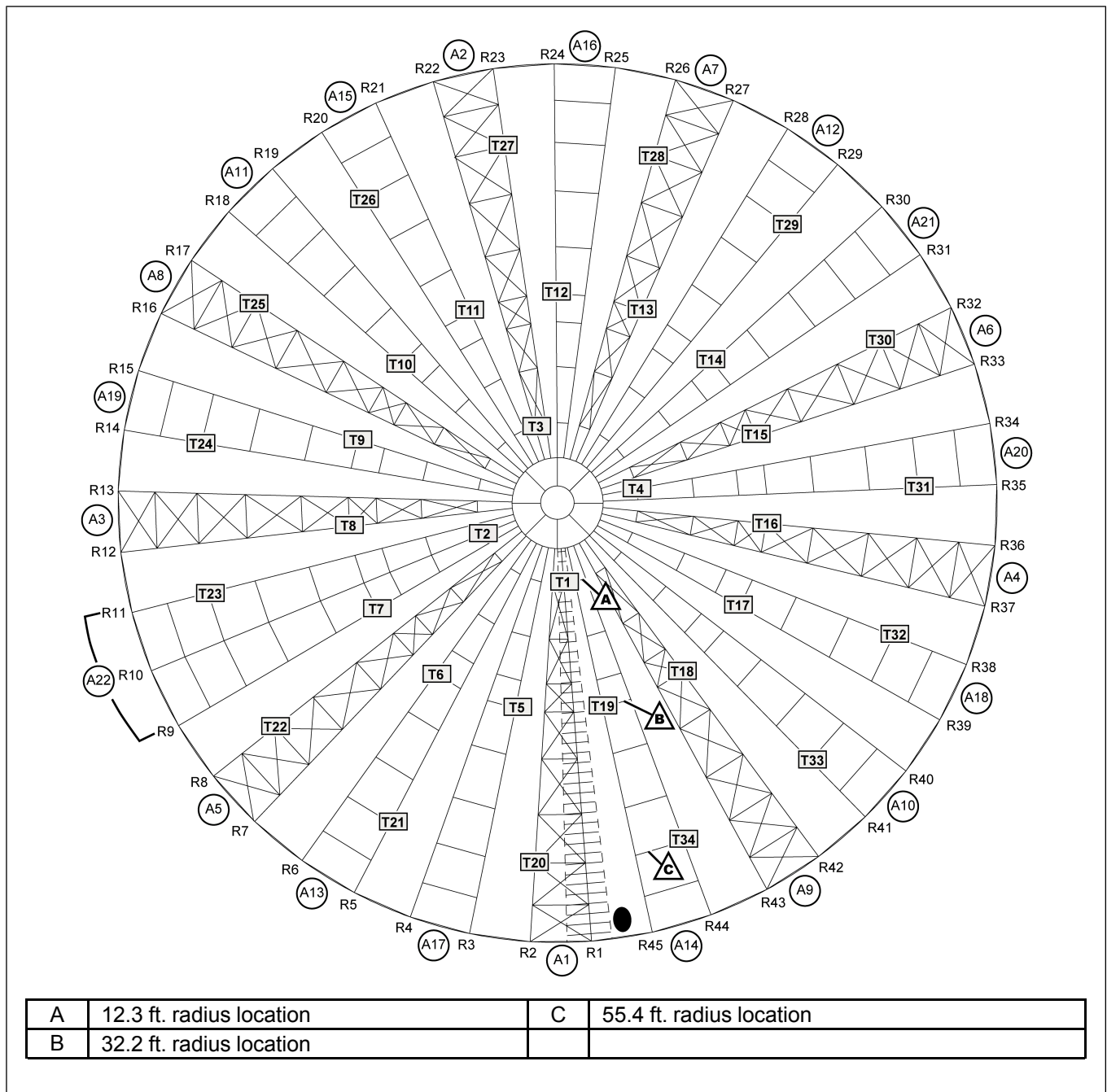
135 ft. Diameter Bin

Table 2-9 Starting lengths for temperature cables for 135 ft. diameter bins

Length from the center collar	None
Length from 12.3 ft. diameter location	387.55 in. (984.38 cm)
Length from 32.2 ft. diameter location	246.53 in. (626.19 cm)
Length from 55.4 ft. diameter location	83.66 in. (212.50 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. DO NOT allow cables to become tangled in unload equipment.

Figure 2-13 Temperature cable locations for 135 ft. diameter bin



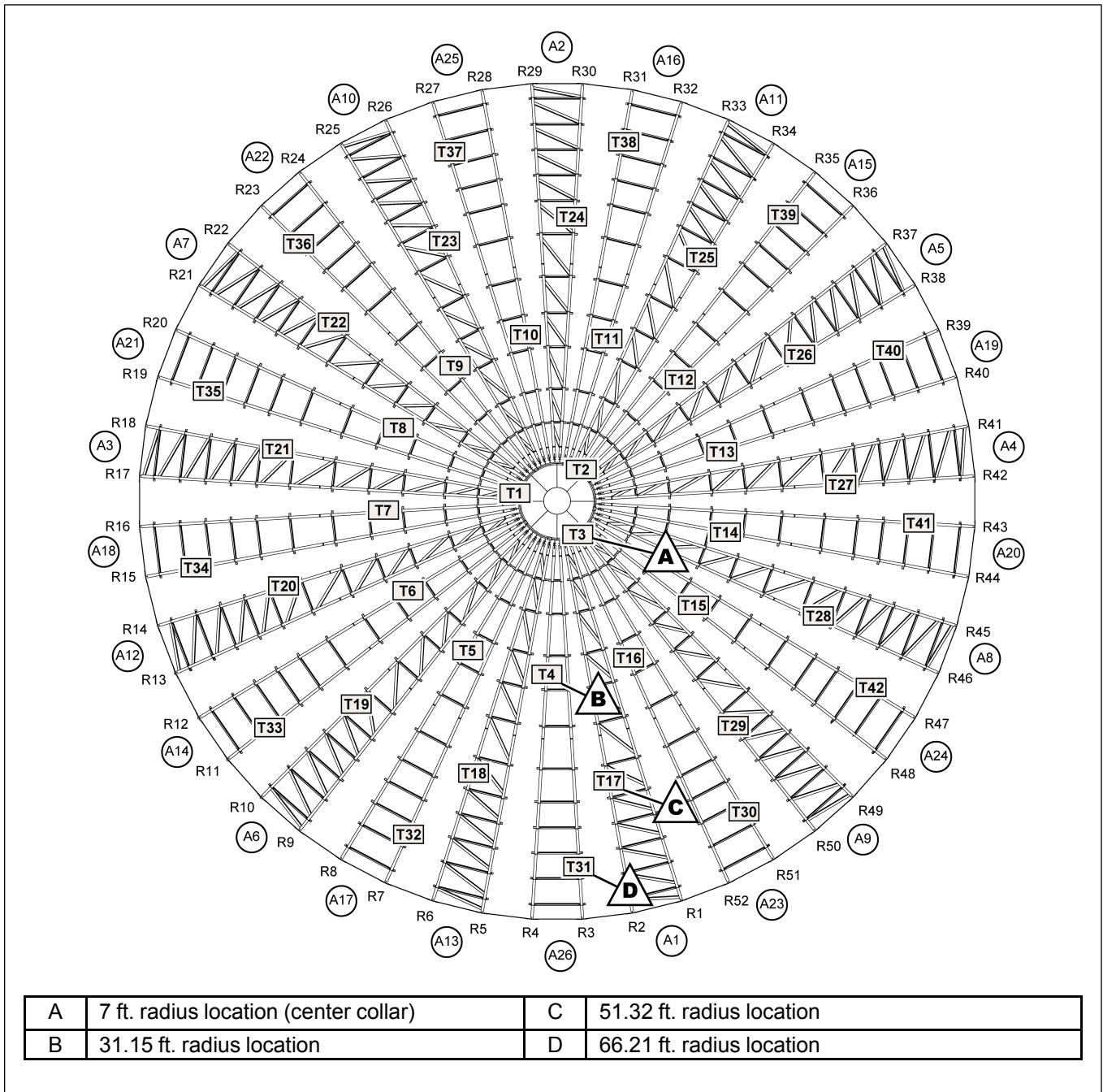
156 ft. Diameter Bin

Table 2-10 Starting lengths for temperature cables for 156 ft. diameter bins

Length from the center collar 7 ft.	481.1 in. (12.21 m)
Length from 31.15 ft. diameter location	314 in. (797.56 cm)
Length from 51.32 ft. diameter location	171.5 in. (435.61 cm)
Length from 66.21 ft. diameter location	65.9 in. (167.38 cm)

The temperature cable lengths in the chart above are the distances from where the temperature cable attaches to the rafter or the center collar to the top ring. To calculate the correct temperature cable length, add 32 inches for each bin ring to the starting length. Temperature cables must terminate above any unload equipment and be secured in place with twine. DO NOT allow cables to become tangled in unload equipment.

Figure 2-14 Temperature cable locations for 156 ft. diameter bin



NOTES

Limited Warranty — N.A. Grain Products

The GSI Group, LLC. ("GSI") warrants products which it manufactures, to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months from the date of shipment (or, if shipped by vessel, 14 months from the date of arrival at the port of discharge). If, in GSI's sole judgment, a product is found to have a defect in materials and/or workmanship, GSI will, at its own option and expense, repair or replace the product or refund the purchase price. This Limited Warranty is subject to extension and other terms as set forth below.

Warranty Enhancements: The warranty period for the following products is enhanced as shown below and is in lieu of (and not in addition to) the above stated warranty period. (Warranty Period is from date of shipment.)

	Product	Warranty Period
Storage	Grain Bin Structural Design • Sidewall, roof, doors, platforms and walkarounds • Flooring (when installed using GSI specified floor support system for that floor) • Hopper tanks (BFT, GHT, NCHT, and FCHT)	5 Years
Conditioning	Dryer Structural Design – (Tower, Portable and TopDry) • Includes (frame, portable dryer screens, ladders, access doors and platforms)	5 Years
	All other Dryer parts including: • Electrical (controls, sensors, switches and internal wiring)	2 Years
	All Non-PTO Driven Centrifugal and Axial Fans	3 Years
	Bullseye Controllers	2 Years
Material Handling	Bucket Elevators Structural Design	5 Years
	Towers Structural Design	5 Years
	Catwalks Structural Design	5 Years
	Accessories (stairs, ladders and platforms) Structural Design	5 Years

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH HEREIN; SPECIFICALLY, GSI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) ANY PRODUCT MANUFACTURED OR SOLD BY GSI, OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

The sole and exclusive remedy for any claimant is set forth in this Limited Warranty and shall not exceed the amount paid for the product purchased. This Warranty only covers the value of the warranted parts and equipment, and does not cover labor charges for removing or installing defective parts, shipping charges with respect to such parts, any applicable sales or other taxes, or any other charges or expenses not specified in this Warranty. GSI shall not be liable for any other direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. Expenses incurred by or on behalf of a claimant without prior written authorization from the GSI warranty department shall not be reimbursed. This warranty is not transferable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor. Prior to installation, the end-user bears all responsibility to comply with federal, state and local codes which apply to the location and installation of the products.

This Limited Warranty extends solely to products sold by GSI and does not cover any parts, components or materials used in conjunction with the product, that are not sold by GSI. GSI assumes no responsibility for claims resulting from construction defects, unauthorized modifications, corrosion or other cosmetic issues caused by storage, application or environmental conditions. Modifications to products not specifically delineated in the manual accompanying the product at initial sale will void all warranties. This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained.

Notice Procedure:

In order to make a valid warranty claim a written notice of the claim must be submitted, using the RMA form, within 60 days of discovery of a warrantable nonconformance. The RMA form is found on the OneGSI portal.

Service Parts:

GSI warrants, subject to all other conditions described in this Warranty, Service Parts which it manufactures for a period of 12 months from the date of purchase unless specified in Enhancements above.

This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.



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