

GRAIN GUARD

GRAIN GUARD ROCKET

6000/7000/8000/CR 8000 SERIES
INSTALLATION MANUAL



Read this manual before using product. Failure to follow instructions and safety precautions can result in serious injury, death, or property damage. Keep manual for future reference.

Part Number: RNA-2774 R0

Revised: May/10

This product has been designed and constructed according to general engineering standards^a. Other local regulations may apply and must be followed by the operator. We strongly recommend that all personnel associated with this equipment be trained in the correct operational and safety procedures required for this product. Periodic reviews of this manual with all employees should be standard practice. For your convenience, we include this sign-off sheet so you can record your periodic reviews.

[illegible]

- a. Standards include organizations such as the American Society of Agricultural and Biological Engineers, American National Standards Institute, Canadian Standards Association, International Organization for Standardization, and/or others.

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1. Introduction

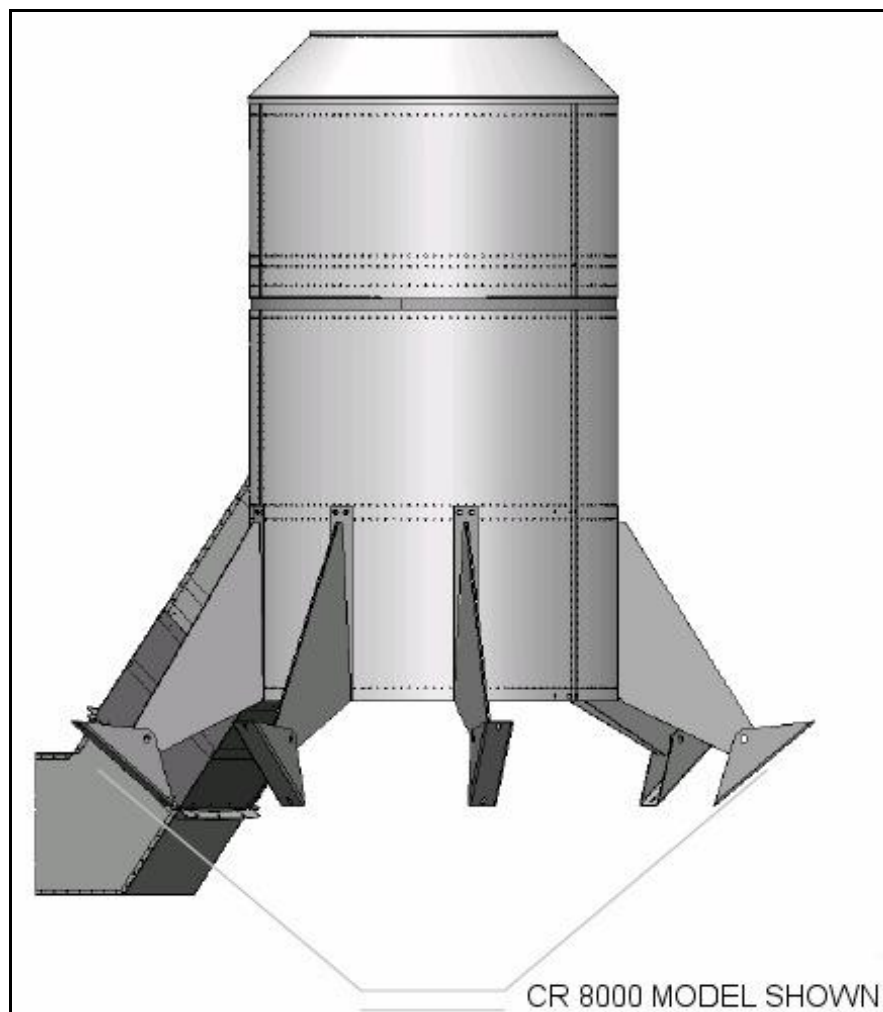
Thank you for your purchase. The Grain Guard Rocket 6000/7000/8000/CR 8000 is an excellent addition to any bin and it will allow you to harvest in damp conditions, maintain stored grain in peak condition, and prevent mold growth and insect infestation. With proper care during and after installation, your aeration system will provide you with many years of trouble-free service.

The Grain Guard Rocket is designed to reduce grain drying time and increase fan efficiency by forcing air into the center of the bin. This system dries grain more uniformly and efficiently than conventional bottom-up aeration systems.

Safe, efficient and trouble-free operation of the Rocket aeration system requires that you, and anyone else who may operate this equipment, read and understand all safety instructions and procedures.

Keep this manual handy for frequent reference and to review with new personnel. Call your local distributor or dealer if you need assistance or additional information.

Note: *The Grain Guard Rocket is intended for grain use only. Do not use with fertilizer or other material.*



2. Safety First

2.1. GENERAL SAFETY



- It is the equipment owner and the operator's responsibility to read and understand **ALL** safety instructions, safety decals, and manuals and follow them before assembling operating, or maintaining the equipment. All accidents can be avoided.



- Use this equipment for its intended purposes only.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety, and could affect the life of the equipment. Any modification to the equipment voids the warranty.
- Have a first-aid kit available for use should the need arise, and know how to use it.

- Wear appropriate protective gear. This list includes, but is not limited to:

- a hard hat
- gloves
- protective shoes with slip-resistant soles
- protective goggles
- hearing protection



- Follow good shop practices:
 - keep service area clean and dry
 - be sure electrical outlets and tools are properly grounded
 - use adequate light for the job at hand
 - Think SAFETY! Work SAFELY!



3. Installation

The following location and installation instructions apply to the 6000, 7000, and 8000 Series Rockets. The specifications for these aeration systems are given in the table below.

Series	Part No.	Maximum Sidewall Height	Rocket Diameter (outer/inner)	Bin Size	Airflow Capacity (CFM)	Air Inlet Size
GG 6000 6'	GGR-8500	15'	15" slim rocket (for existing bins)	1200 to 2500 bu.	2,700	9" x 14"
GG 7000 4'	GGR-8501	20'	30"/20"	1500 to 3300 bu.	6,700	9" x 14"
GG 7000 6'	GGR-8502	20'	30"/20"	up to 4500 bu.	7,800	9" x 14"
GG 7000 8'	GGR-8503	20'	30"/20"	up to 6000 bu.	9,500	9" x 14"
GG 8000 4'	GGR-8521	30'	45"/30"	up to 7000 bu.	10,000	14" x 17"
GG 8000 6'	GGR-8504	30'	45"/30"	up to 7500 bu.	13,000	14" x 17"
GG 8000 8'	GGR-8505	30'	45"/30"	up to 10000 bu.	16,000	14" x 17"
CR 8000 4'	GGR-8522	40'	45"/30"	up to 15000 bu.	10,000	14" x 17"
CR 8000 6'	GGR-8519	40'	45"/30"	up to 20000 bu.	13,000	14" x 17"
CR 8000 8'	GGR-8520	40'	45"/30"	up to 25000 bu.	16,000	14" x 17"

NOTICE

Grain Guard Rockets are not to be used on hopper slopes more than 40° from the horizontal. For hoppers with slopes steeper than 40°, consult Edwards before installation.

3.1. LOCATION

All models of the Grain Guard Rocket are designed to be installed in the center of hopper-bottom bins, with the rocket center aligned with the center of hopper cone. To ensure proper airflow, the rocket must be installed completely vertical.

3.2. INSTALLATION

Refer to Figure 3.1, one of Figures 4.1–4.4, and one of Tables 4.1–4.4 found in Appendix during installation, depending on the model being installed.

The following tools are required for proper installation:

- 9/16" wrench
- electric drill with 7/16" bit
- marker
- torch or cutting wheel
- level
- tin snips
- safety equipment (e.g. goggles)
- silicone

For GG 6000 6' only (on existing bins):

1. Unbolt air inlet on rocket.
2. Insert 15" rocket through existing manhole.
3. Replace air inlet and apply silicone around air inlet. Bolt back in place.
4. Complete the following installation instructions.



For all Grain Guard Rockets:

1. Attach legs to rocket with 3/8" x 1-1/4" bolts.
 - The GG 6000 and 7000 Rockets have 2 legs.
 - The GG 8000 Rocket has 4 legs.
 - The CR 8000 Rocket has 6 legs.
2. Attach feet to legs with 3/4" x 4-1/2" bolts and 3/4" locknuts.
3. Secure 17" straight duct to air inlet with twelve #14 x 3/4" tek screws. Use 4 screws on each side and 2 screws on both the top and the bottom of duct.
4. Center rocket in bin over hopper unload chute. Use a level to ensure rocket sits true to both the horizontal and the vertical.
5. Mark outline of outside of straight duct on hopper cone for inlet opening.
6. Rotate rocket in bin so it is out of the way and cut inlet opening in hopper cone. A torch or cutting wheel is recommended.



Important: *Make cut inside the marked line to help keep the opening as clean as possible. Ensure that the minimum size of hole is 8-7/8" x 13-7/8", and that the maximum size is no larger than 9" x 14".*

7. Re-align rocket in bin so that the 17" straight duct lines up with the rectangular inlet opening on the hopper. With the rocket in a vertical position, check if any of the straight duct protrudes outside the exterior hopper wall (this may occur on hopper cones that have fewer degrees of slope).
 - Trim off any excess straight duct with tin snips to make duct flush with hopper cone.
8. Install duct elbow as follows:
 - a. Place elbow angle frame on the uncapped (short) end of duct elbow. Ensure that the flat side of elbow angle frame faces outward on duct elbow.
 - b. Insert duct elbow and elbow angle frame into the precut opening and 17" straight duct until at least 1-1/2" of the elbow is inside the hopper cone and straight duct. Ensure that the long edge of elbow is parallel to the ground. Support elbow in this position.
 - c. Move elbow angle frame up duct elbow until it lays flush against the hopper cone. Mark the location of all holes:
 - 12 holes through elbow angle frame and hopper cone.

- 8 holes through elbow angle frame and duct elbow.
- d. Remove duct elbow and elbow angle frame from inlet hole and pre-drill all marked holes with a 3/16" drill bit, then drill out with a 7/16" drill bit.
 - e. Slide duct elbow and elbow angle frame back into opening and straight duct. Ensure that the long edge of elbow is parallel to the ground.
 - f. Fasten elbow angle frame to hopper cone (at 12 places) and to elbow (at 8 places) with 3/8" x 1-1/4" bolts and nuts.
9. Ensure that 17" straight duct is aligned over duct elbow. Fasten 17" straight duct to duct elbow using twelve #14 x 3/4" tek screws. Use 4 screws on each side and 2 screws on both the top and the bottom of duct.
 10. Using the holes in rocket feet as a guide, drill 7/16" holes in the hopper cone. Attach rocket feet to hopper cone with 3/8" x 1-1/4" bolts and nuts.

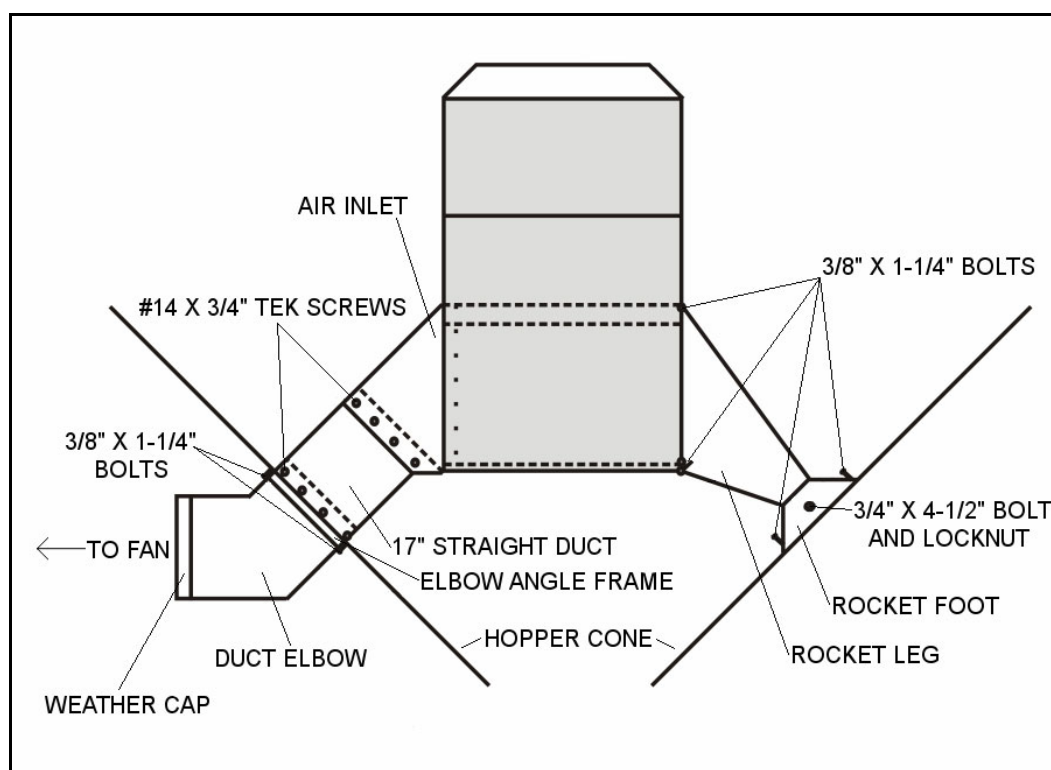


Figure 3.1

4. Appendix

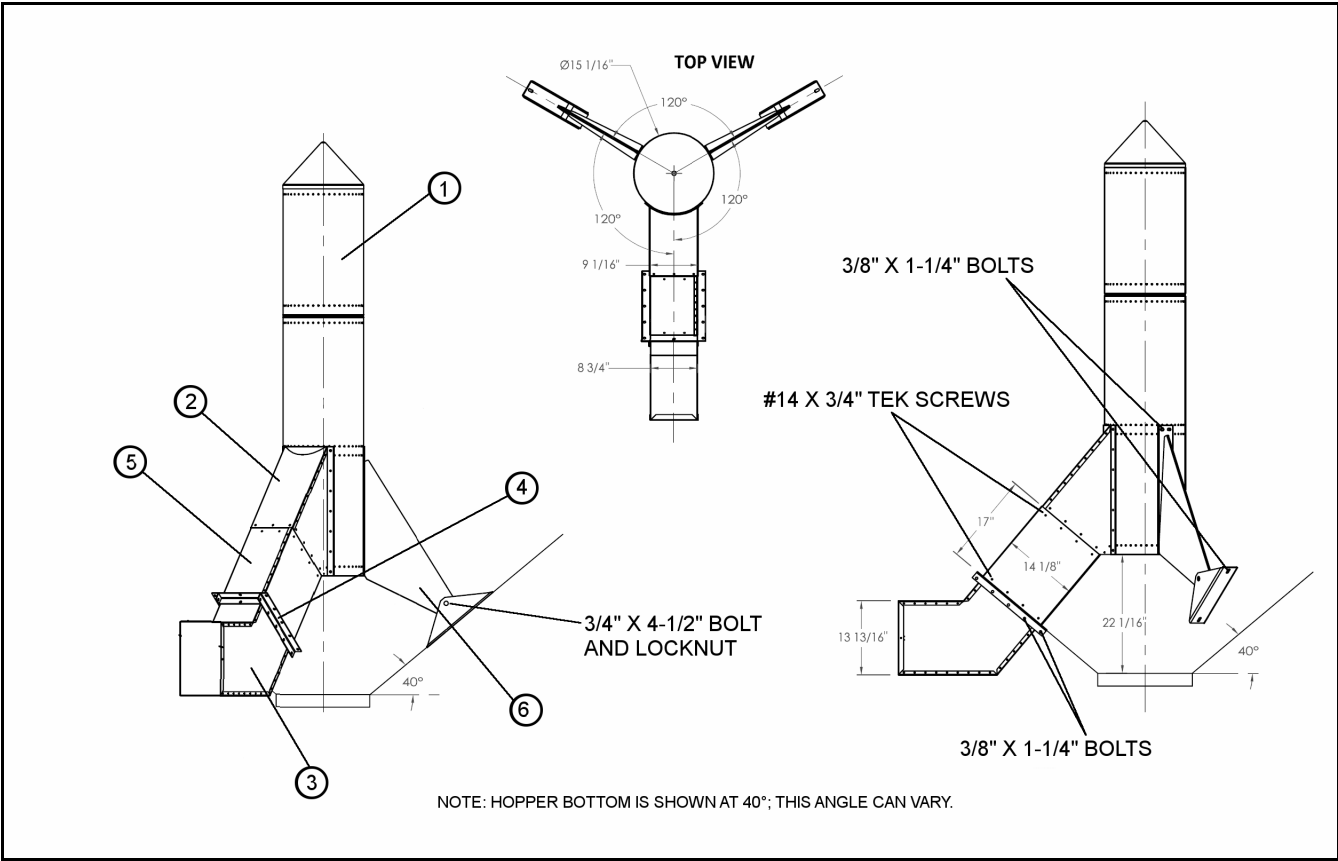
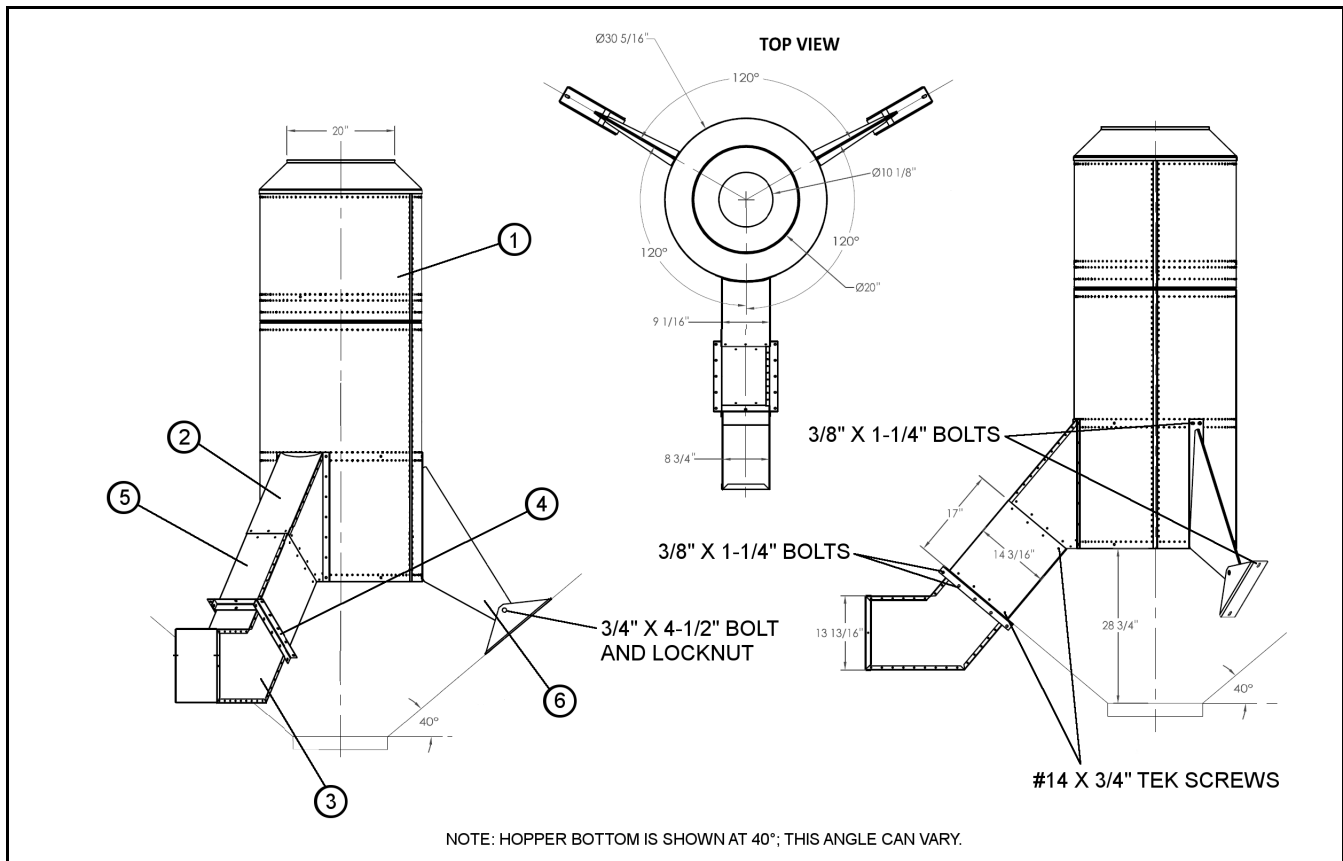


Figure 4.1 GG 6000 Series Rocket

Table 4.1 GG 6000 Series Components

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	—	GG6000 Rocket Body 15" Diameter (6')	1
2	GGA-8638	GG6000 Inlet (9" X 14")	1
3	GGA-8636	9" X 14" Elbow w/ Weather Cap	1
4	GGA-8688	9" X 14" Elbow Angle Frame (Curved)	1
5	GGA-8647	Rectangular Duct Section (17")	1
6	GGA-8649	Rocket 2-Leg Set Complete w/ Installation Package	1

**Figure 4.2 GG 7000 Series Rocket****Table 4.2 GG 7000 Series Components**

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	—	GG7000 Rocket Body 30" Diameter (4', 6', or 8')	1
2	GGA-8639	GG7000 Inlet (9" X 14")	1
3	GGA-8636	9" X 14" Elbow w/ Weather Cap	1
4	GGA-8688	9" X 14" Elbow Angle Frame (Curved)	1
5	GGA-8647	Rectangular Duct Section (17")	1
6	GGA-8649	Rocket 2-Leg Set Complete w/ Installation Package	1

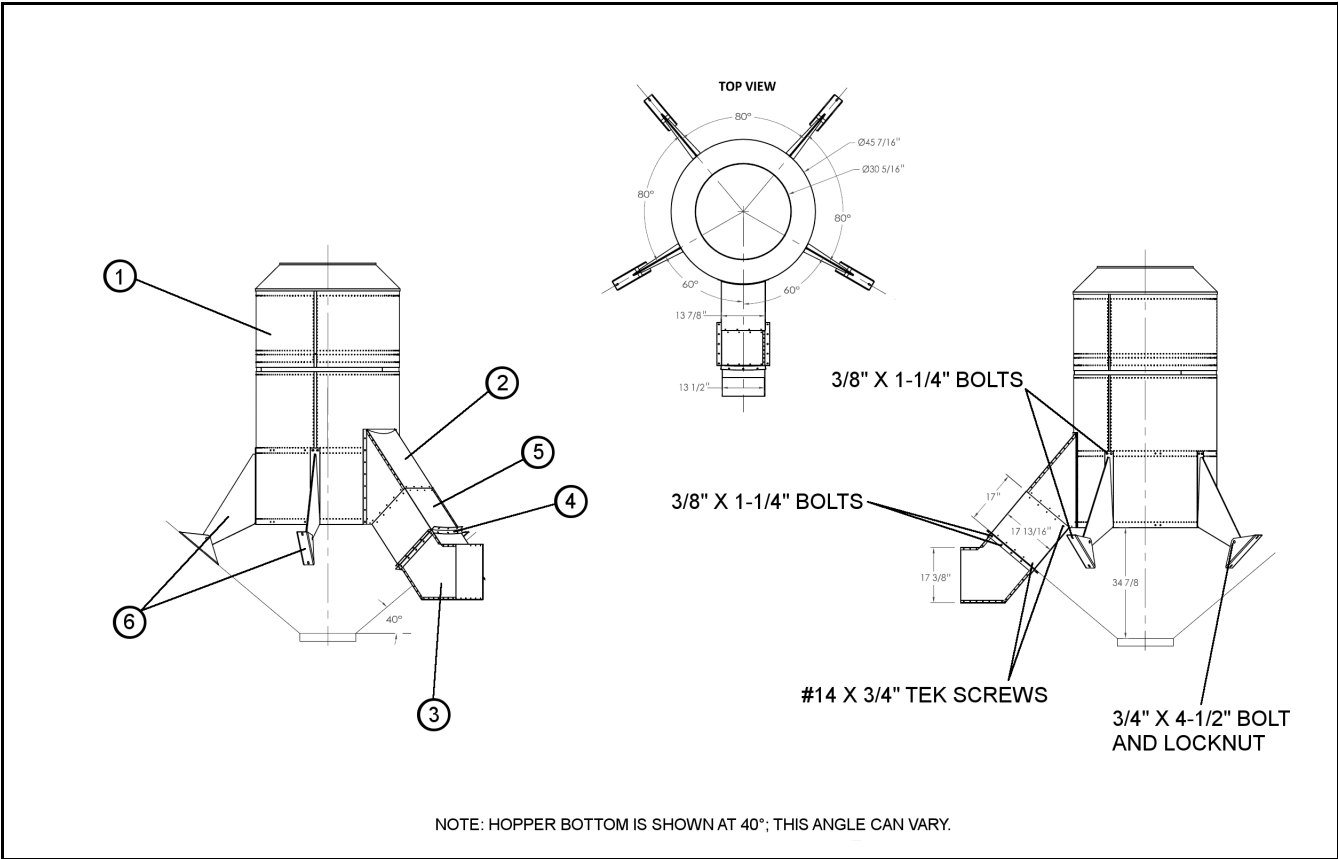
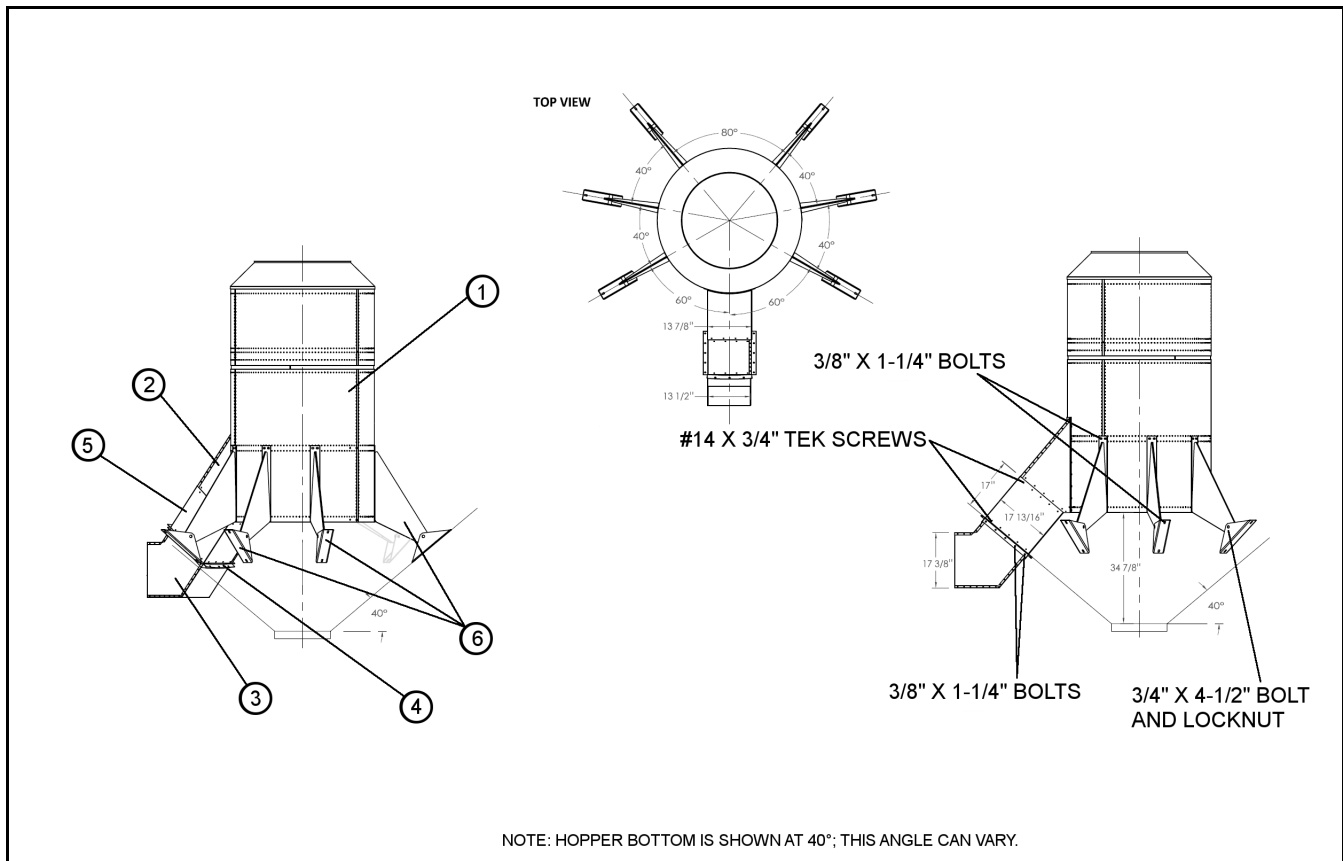


Figure 4.3 GG 8000 Series Rocket

Table 4.3 GG 8000 Series Components

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	—	GG8000 Rocket Body 45" Diameter (4', 6', or 8')	1
2	GGA-8685	GG8000 Inlet (14" X 17")	1
3	GGA-8637	14" X 17" Elbow w/ Weather Cap	1
4	GGA-8691	14" X 17" Elbow Angle Frame (Curved)	1
5	GGA-8648	Rectangular Duct Section (17")	1
6	GGA-8649	Rocket 2-Leg Set Complete w/ Installation Package	2

**Figure 4.4 CR 8000 Series Rocket****Table 4.4 CR 8000 Series Components**

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	—	CR8000 Rocket Body 45" Diameter (4', 6', or 8')	1
2	GGA-8685	CR8000 Inlet (14" X 17")	1
3	GGA-8637	14" X 17" Elbow w/ Weather Cap	1
4	GGA-8691	14" X 17" Elbow Angle Frame (Curved)	1
5	GGA-8696	Re-inforced Rectangular Duct Section (17")	1
6	GGA-8649	Rocket 2-Leg Set Complete w/ Installation Package	3

WARRANTY

Except as expressly provided in this agreement, Edwards Group (hereinafter called the Manufacturer) excludes all express or implied warranties, conditions, and obligations of the Manufacturer, whether statutory or otherwise, concerning the quality of the units or their fitness for any purpose.

Under no circumstances will the Manufacturer be liable for any kind of special, consequential, indirect, or incidental damages resulting from the use of its products, nor shall the Manufacturer's liability ever exceed the selling price of the product.

Edwards Group warrants their products as follows:

1. Goods free from defect:
 - a. The unit shall be free from defects in materials and workmanship and shall operate properly in accordance with industry standards when employed in normal usage, provided the unit has been properly installed for a period of: three (3) years from the original date of purchase.
2. The warranty does not include:
 - a. Routine replacement of parts due to normal wear and tear arising from use.
 - b. Any defect attributable in whole or in part to misuse or improper installation.
 - c. Any damage or defect attributable to repair of the unit outside the Manufacturer's facilities or those of an authorized dealer, or the installation of unapproved parts on the unit in the Manufacturer's judgment to affect its performance or reliability, or which has been subject to misuse, negligence, or accident.
 - d. Any damage attributable to accident or to lightning, power surge, brownout, leaking, damage, or connection to a power source having a greater rating than that specified in the unit specifications.
3. Repair or Replacement

Where any part of the unit fails during normal usage during the warranty period specified, the Manufacturer, or authorized dealer of the Manufacturer, shall repair or replace the defective part of the unit with a new or factory reconditioned part, such replacement or repair to be made without charge for parts or labor, F.O.B. the Manufacturer.

4. Warranties shall not apply to any product made by the Manufacturer that has not been operated in accordance with the Manufacturer's printed instructions or shall have been operated beyond the rated capacity of the product or a use not intended.
5. The Manufacturer reserves the right to make design or specification changes at any time, without contingent obligation to purchasers of products already sold.



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