

County of Callaway - Fulton, Missouri
Bid #12 – 2025 Grader and Snowplow Blades

February 5, 2025

Now on this day the Callaway County Commission is accepting sealed bids on various types and quantities of grader and snowplow blades as shown in the attached bid forms and as follows:

Heat Treated Duramax (or approved equal), standard, curved, single bevel, grader blade setup for 14' (wide) moldboard, with 2 - 7' (long) x 8" (wide) x 5/8" (thick), with 5/8" holes setup for standard mounting (Universal 3"- 3"- 6" bolt pattern)

Double Carbide, standard, curved, single bevel, grader blade setup for 14' (wide) moldboard, with 2 - 4' (long) x 7" (wide) x 1" (thick) and 2 - 3' (long) x 7" (wide) x 1" (thick) sections, with 5/8" holes setup for standard mounting (Universal 3"- 3"- 12" bolt pattern)

Standard punched snowplow blades with carbide insert with 1-1/2" gauge to center of holes and 5/8" holes setup for standard mounting, blade setup for 10' (wide) moldboard, with 2 - 3' (long) x 6" (wide) x 3/4" (thick) and 1 - 4' (long) x 6" (wide) x 3/4" (thick) sections (See attached Appendix A and Appendix B for drawings and specifications)

Please submit the sealed bids on the attached bid forms. This bid will be for a one-year period beginning April 1, 2025, through March 31, 2026. Please contact H. David Thomas, PE the Callaway County Road & Bridge Department Administrator at Email: dthomas@callawaycounty.org, Off. Ph. (573) 642-0740 with any questions.

All bids must be received no later than Tuesday, March 11, 2025, at 11:00 a.m. at which time they will be opened.

The Callaway County Commission reserves the right to accept or reject any and/or all bids.

County of Callaway - Fulton, Missouri

All **mailed** or **carrier delivered** sealed bids, subject to the Instructions and General Conditions of Bidding listed below and any special conditions set forth herein, will be received at the Office of the County Commission, Callaway County Courthouse, 10 East Fifth Street, Fulton, Missouri 65251, until 4:30 p.m. on Monday, March 10, 2025. **Hand delivered** sealed bids will be received in the office of the County Commission until the scheduled time of opening. The sealed bids shall be for furnishing the Callaway County Road and Bridge Department with the material and / or list of materials, supplies, equipment, or services shown on the attached sheet(s). Proposals shall include all charges for delivery, packing, etc., to the Callaway County Road and Bridge Department Office, 5901 County Road 302, Fulton, Missouri 65251.

The bid is scheduled to be opened at 11:00 a.m. on Tuesday, March 11, 2025, in the County Commission Chambers, County Courthouse, 10 East Fifth Street, Fulton, Missouri 65251.

INSTRUCTIONS AND GENERAL CONDITIONS OF BIDDING

1. The Callaway County Commission has the right to accept or reject any part or parts of all bids, to waive technicalities, and to accept the offer the County Commission considers the most advantageous to the County.
 2. Bidders must give the unit price, extended totals, and sign the bid. Identify your bid by number, article, and opening date on the outside of the envelope the bid is sent in.
 3. Identify the item you will furnish by brand or manufacturer's name and catalog numbers. Furnish specifications and descriptive literature.
 4. When products or materials of any producer or manufacturer are mentioned in our specifications, such products or materials are intended to be descriptive of type or quality and not restricted to those mentioned.
 5. Do not include Federal Excise Tax or Sales Taxes in bid process, as the County is exempted from them by law. A copy of the County's Tax Exemption Certificate will be provided upon request.
 6. Delivery date/time frame must be stated on bid sheet.
 7. There are no guaranteed quantities for any of the bid items, see the notes on the bid sheet.
 8. In case of default by the Bidder or Contractor, the County of Callaway will procure the articles or services from other sources and hold the Bidder or Contractor responsible for any excess cost occasioned thereby.
 9. Failure to deliver as guaranteed may disqualify Bidder from future bidding.
 10. Prices must be stated in units of quantity specified and must be firm. Bids qualified by escalator clauses may not be considered unless specified in the bid specifications.
 11. No bid transmitted by fax machine or email will be accepted.
 12. Failure to comply with any of the above Instructions and General Conditions of Bidding may disqualify the bidder.
 13. The County of Callaway, Missouri expressly denies responsibility for, or ownership of, any item purchased until same is delivered to the County and is accepted by the County Commission.
 14. As noted above, bid prices shall be good for the one year specified.
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County of Callaway - Fulton, Missouri
Bid #12 – 2025 Grader and Snowplow Blades

The undersigned offers to furnish and deliver the articles or services as specified at the prices and terms stated and in strict accordance with the Specifications and Instructions and General Conditions of Bidding which have been read and understood, and all of which are made part of this order.

SIGNATURE: _____

Delivery will be made within _____ business days after order is received.

Business Name & Address _____ _____
Phone #: _____
Email Address: _____
By: _____ (Print)
_____ (Signature)
Date: _____

County of Callaway - Fulton, Missouri
Bid #12 – 2024 Grader and Snowplow Blades

BIDDER COMPANY NAME:

Heat Treated Duramax (or approved equal), standard, curved, single bevel, grader blade setup for 14' (wide) moldboard, with 2 - 7' (long) x 8" (wide) x 5/8" (thick), with 5/8" holes setup for standard mounting (Universal 3"- 3"- 6" bolt pattern)

ITEM NO.	ITEM DESCRIPTION	UNIT	ITEM UNIT PRICE	SHIPPING or DELIVERY COSTS
1	Single two (2) blade setup (14 feet long)	Ea.		
2	Five (5) two (2) blade setups or a ten (10) blade bundle	Ea.		
3	Fifty (50) two (2) blade setups or a one hundred (100) blade bundle	Ea.		

Double Carbide, standard, curved, single bevel, grader blade setup for 14' (wide) moldboard, with 2 – 4' (long) x 7" (wide) x 1" (thick) and 2 – 3' (long) x 7" (wide) x 1" (thick) sections, with 5/8" holes setup for standard mounting (Universal 3"- 3"- 12" bolt pattern)

ITEM NO.	ITEM DESCRIPTION	UNIT	ITEM UNIT PRICE	SHIPPING and DELIVERY COSTS
4	Single four (4) blade setup (14 feet long)	Ea.		
5	Five (5) four (4) blade setups	Ea.		
6	Ten (10) four (4) blade setups	Ea.		

Standard punched snowplow blades with carbide insert with 1-1/2" gauge to center of holes and 5/8" holes setup for standard mounting, blade setup for 10' (wide) moldboard, with 2 – 3' (long) x 6" (wide) x 3/4" (thick) and 1 – 4' (long) x 6" (wide) x 3/4" (thick) sections (See attached Appendix A and Appendix B for drawings and specifications)

ITEM NO.	ITEM DESCRIPTION	UNIT	ITEM UNIT PRICE	SHIPPING and DELIVERY COSTS
7	Single three (3) blade setup (10 feet long)	Ea.		
8	Six (6) three (3) blade setups	Ea.		
9	Twelve (12) three (3) blade setups	Ea.		

NOTES:

- There are no guaranteed quantities for any of the bid items.
- The County can select to accept multiple, single, or no bid items based on price.
- The County can choose to pick-up the products at the vendors warehouse and delete the shipping and delivery cost. If the items are picked up at the vendors warehouse, the vendor will be responsible for loading the products on or the County's vehicle.

Appendix A – Standard Specifications for Plow Blades with Carbide Inserts (Trapezoid Shape)

APPENDIX A
Standard Specifications for Plow Blades with Carbide Inserts (Trapezoid Shape)
Prepared by Clear Roads

1. PLOW BLADE

- a. Plow blades shall be 3/4" by 6" by 48" and shall be hot rolled AISI 1020 quality steel.
- b. Lengths other than 48" may be specified in 12" increments.
- c. Hole punching shall be 11/16" square and countersunk to receive 5/8" bolts.
- d. Location and spacing of hole punches shall be as shown on the attached Figure 1A.
- e. Tolerance of bolt hole location shall be 1/32".
- f. A 3/8" groove for the carbide inserts shall be milled in the center of the blade edge.

2. CARBIDE BLADE INSERTS

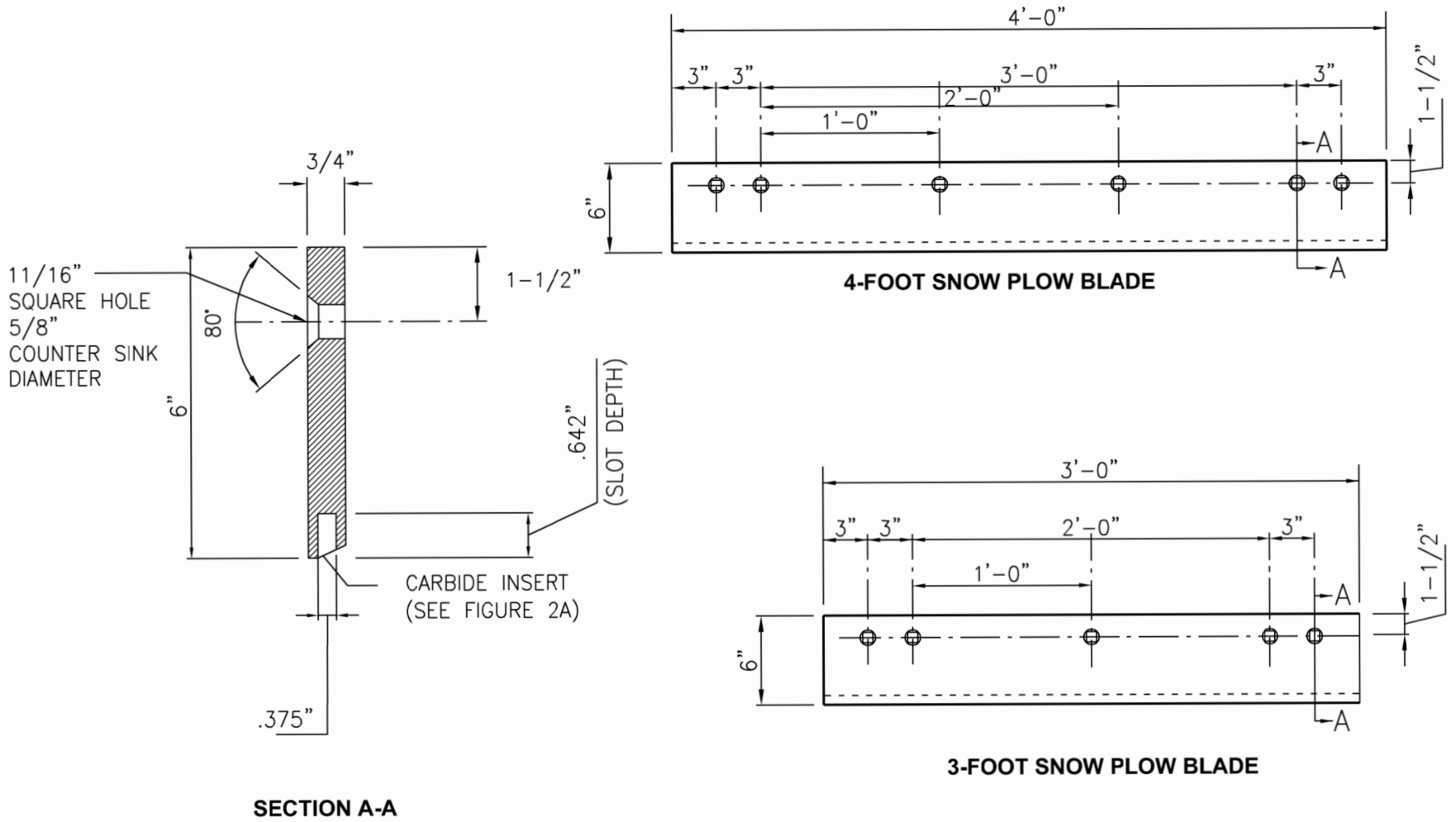
- a. Inserts shall be made of the following materials:
 - i. 87-88% tungsten carbide
 - ii. 11-12% cobalt
 - iii. 1% maximum for all other elements
- b. Inserts shall be 25-degree trapezoidal with the following nominal dimensions (Figure 2A):
 - i. Length: 1" \pm 0.005"
 - ii. Thickness: 0.365" \pm 0.005"
 - iii. Height: 0.635" \pm 0.005" (measured on long side)
 - iv. Nose radius: 1/16"
- c. Inserts shall have the following properties:
 - i. Hardness: 88.0-90.5 HRA per ASTM B294-92
 - ii. Density: 14.4-14.5 g/cc per ASTM 311-08
 - iii. Porosity: A04 = 0.06%, B02 = 0.02%, C04 = 0.06% per ASTM B276-05e1
- d. All surfaces (internal and external) shall be free of cracks and laminations.

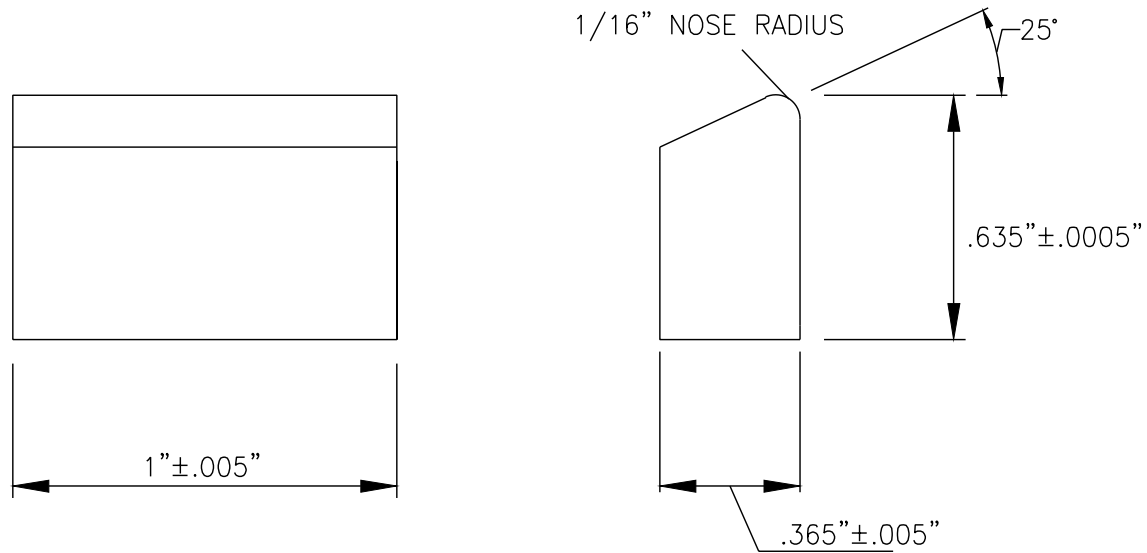
3. BRAZING

- a. Carbide inserts shall be spaced in the milled groove with .010" between the inserts for the entire length of each blade section.
- b. The inserts shall be brazed on all sides.
- c. Brazing shall leave no voids or shims.
- d. Brazes shall use quality materials, best methods and qualified/certified technicians.
- e. There shall be no gaps or spacing between adjacent inserts after brazing.

4. TESTING PROCEDURES

- a. The vendor shall perform ASTM testing on a representative sample of each lot of carbide material that is used in the production of carbide inserts. All ASTM carbide test procedures listed above shall be conducted.
- b. Prior to delivery, the vendor shall provide the Department with all ASTM carbide test results and a statement of Acceptable Quality Level (AQL) inspection data, including acceptance and rejection findings. At its discretion, the Department will review the provided information and either accept or reject the carbide material. Accepted carbide material may move forward in the procurement process. Rejected carbide material shall result in rejection of the full lot of carbide from which the test samples were derived and cancelation of the procurement. If the vendor desires to continue with the procurement they must submit test results and AQL findings from a different lot of carbide material.





CARBIDE INSERT

Appendix B – Standard Specifications for Plow Blades with Carbide Inserts (Bullnose Shape)

APPENDIX B
Standard Specifications for Plow Blades with Carbide Inserts (Bullnose Shape)
Prepared by Clear Roads

1. PLOW BLADE

- a. Plow blades shall be 3/4" by 6" by 48" and shall be hot rolled AISI 1020 quality steel.
- b. Lengths other than 48" may be specified in 12" increments.
- c. Hole punching shall be 11/16" square and countersunk to receive 5/8" bolts.
- d. Location and spacing of hole punches shall be as shown on the attached Figure 1B.
- e. Tolerance of bolt hole location shall be 1/32".
- f. A 3/8" groove for the carbide inserts shall be milled in the center of the blade edge.

2. CARBIDE BLADE INSERTS

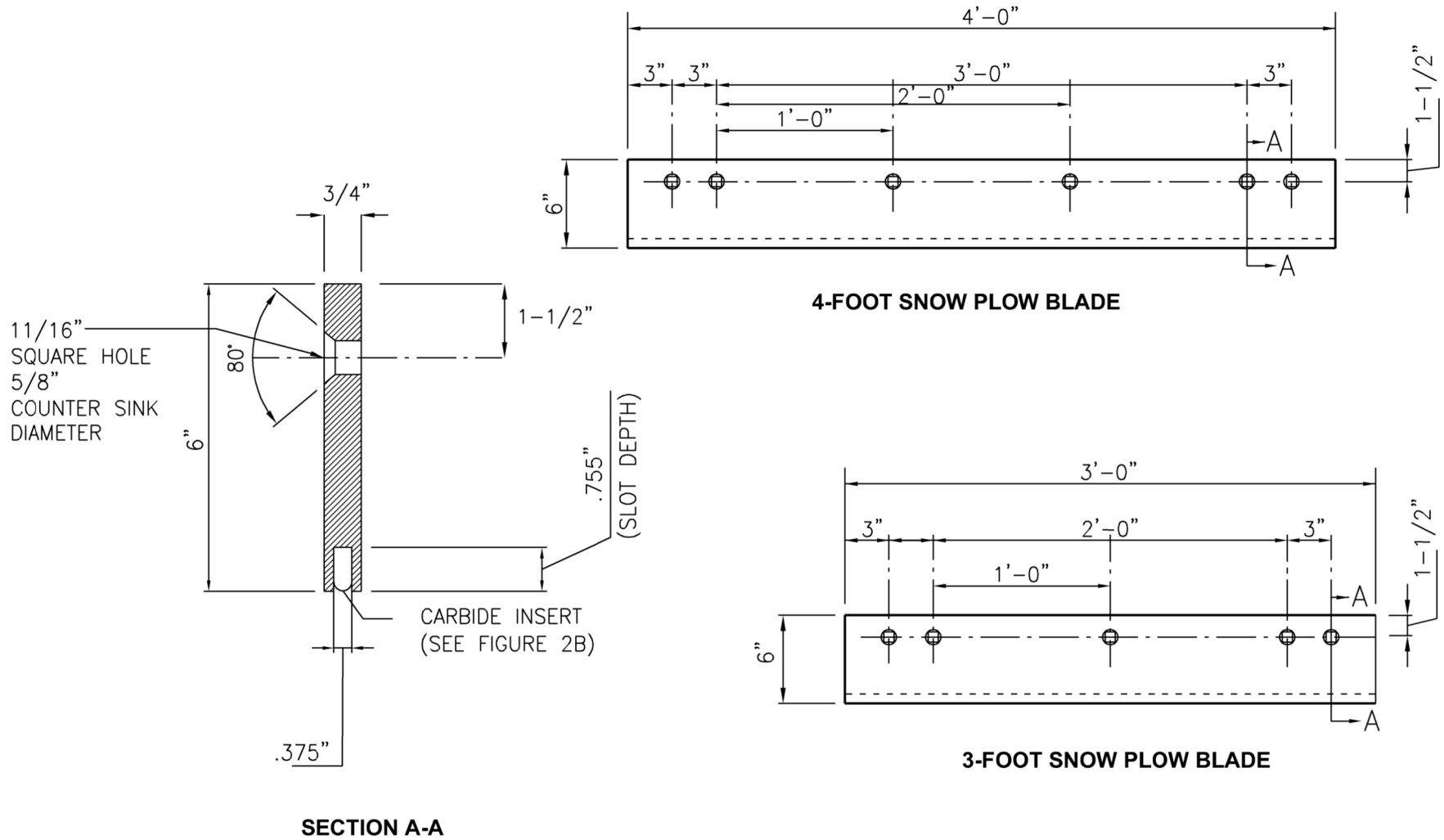
- a. Inserts shall be made of the following materials:
 - i. 87-88% tungsten carbide
 - ii. 11-12% cobalt
 - iii. 1% maximum for all other elements
- b. Inserts shall be bullnose shape with the following nominal dimensions (Figure 2B):
 - i. Length: 1" ± 0.005"
 - ii. Thickness: 0.365" ± 0.005"
 - iii. Height: 0.750" ± 0.005" (total height, including bullnose radius)
 - iv. Nose radius: 3/16"
- c. Inserts shall have the following properties:
 - i. Hardness: 88.0-90.5 HRA per ASTM B294-92
 - ii. Density: 14.4-14.5 g/cc per ASTM 311-08
 - iii. Porosity: A04 = 0.06%, B02 = 0.02%, C04= 0.06% per ASTM B276-05e1
- d. All surfaces (internal and external) shall be free of cracks and laminations.

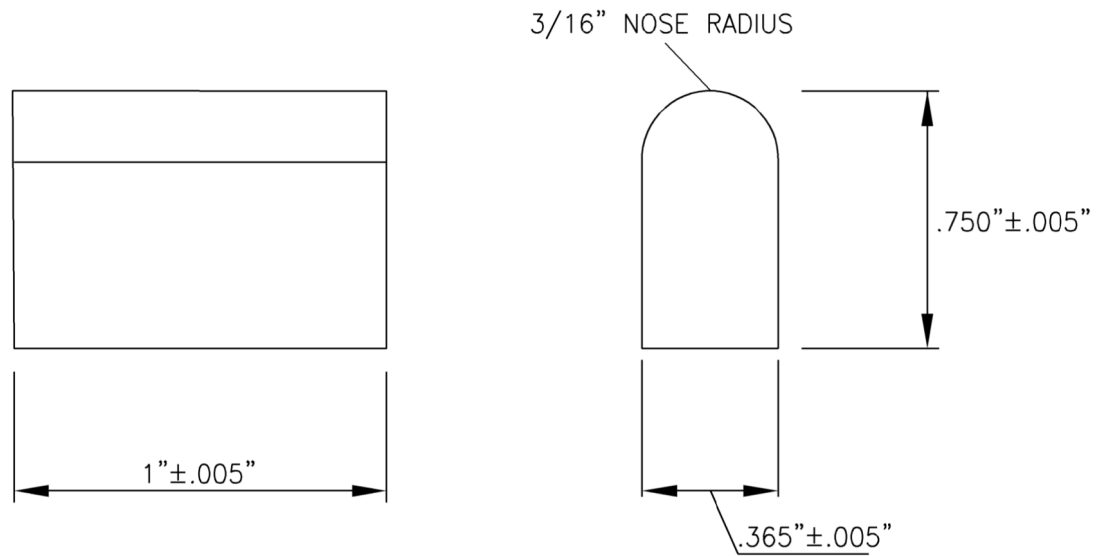
3. BRAZING

- a. Carbide inserts shall be spaced in the milled groove with .010" between the inserts for the entire length of each blade section.
- b. The inserts shall be brazed on all sides.
- c. Brazing shall leave no voids or shims.
- d. Brazes shall use quality materials, best methods and qualified/certified technicians.
- e. There shall be no gaps or spacing between adjacent inserts after brazing.

4. TESTING PROCEDURES

- a. The vendor shall perform ASTM testing on a representative sample of each lot of carbide material that is used in the production of carbide inserts. All ASTM carbide test procedures listed above shall be conducted.
- b. Prior to delivery, the vendor shall provide the Department with all ASTM carbide test results and a statement of Acceptable Quality Level (AQL) inspection data, including acceptance and rejection findings. At its discretion, the Department will review the provided information and either accept or reject the carbide material. Accepted carbide material may move forward in the procurement process. Rejected carbide material shall result in rejection of the full lot of carbide from which the test samples were derived and cancelation of the procurement. If the vendor desires to continue with the procurement they must submit test results and AQL findings from a different lot of carbide material.





CARBIDE INSERT