

**SECTION 34 70 00
SNOW REMOVAL EQUIPMENT**

PART 1 - GENERAL

This specification is the basis for procurement of a High Speed Rotary Blower with Maneuverable Chassis Carrier Vehicle intended for removing snow from airport operational areas, including runways, taxiways and apron areas.

1.1 SYSTEM DESCRIPTION.

- A. All parts and components of this equipment shall be designed and manufactured to be of the size, material, and strength necessary to sustain the specified performance operating in all snow removal conditions with minimum wear and failure.

1.2 BID SUBMITTALS

- A. Each Bidder shall submit with his bid two copies of complete documentation and illustrative descriptions, to include certifications, brochures, catalogue cut sheets and technical data, of the equipment offered to demonstrate that the equipment will meet the requirements of the technical specifications. The documentation to be submitted with the bid shall be for current production components and equipment and shall be dated no more than five years prior to the bid opening.
- B. Brochures, catalogue cut sheets, dimensioned drawings, illustrations, and technical data submitted with the bid shall not be considered as notices of exception to the technical specifications. The Bidder shall identify each item or component of the proposed equipment that fail to comply with the technical specifications and submit this information with his bid.

1.3 SHOP DRAWINGS AND PRODUCTION SCHEDULE

- A. Within sixty calendar days of the effective date of the Contract, the Vendor shall provide to the Owner complete shop drawings of all system components and operating systems comprising the equipment to be provided
- B. Within sixty calendar days of the effective date of the Contract, the Vendor shall provide to the Owner a production schedule indicating the dates of substantial completion of each major component and operating system. The schedule shall also indicate the dates of final completion, testing, shipment and delivery of the equipment.

1.4 OPERATIONAL STANDARDS AND TESTING

- A. Each Bidder shall certify that the equipment offered complies with the performance requirements of this specification. Each Bidder shall submit the certification with the bid. Equipment testing shall be conducted on standard production models.

1.5 DELIVERY

- A. Preparation for Delivery.

1. Shipment. The equipment shall be packed in such a manner as to ensure acceptance and safe delivery to the designated point.
 2. Marking for shipment shall be in accordance with the instructions issued by the Purchaser.
- B. Field Testing, Startup and Operations and Maintenance Training.
1. A qualified field service technician or manufacturer's representative shall be present within 24 hours of delivery of the equipment to Owner to provide commissioning, startup, and field testing of the equipment at the Airport to verify operation and performance in conformance with the specifications and intended use. The factory qualified representative shall provide training for all operators and mechanics as identified by the Owner at the time of delivery. Training shall include 12 hours for operators and an additional 12 hours of mechanics training.
 2. Training sessions shall include both in the field and classroom environments and shall encompass proper operation and maintenance of the equipment provided. Training shall be focused on use of operations and maintenance manuals provided by the Vendor and other appropriate presentation material. The Vendor shall provide the Owner a detailed agenda of training sessions not less than 14 days in advance of delivery of equipment.
- C. Operations and Maintenance Manuals.
1. The Vendor shall provide, at the time of delivery of equipment to the Owner, one complete set of the following documentation as part of the Operations and Maintenance Manuals requirements in accordance with the standard commercial practices applicable to the equipment furnished under this contract. The set shall include one copy each of:
 - a. Operator's Manual with lubrication chart. Operator's Manual shall be a printed document.
 - b. Maintenance and Service Manual. All applicable service manuals, to include service and repair manuals for all assemblies and subassemblies such as power plant, drive system, hydraulic system, etc. Maintenance and Service Manual shall be a printed document.
 - c. Parts Manual. All parts not originally fabricated by the manufacturer of the carrier vehicle shall be cross-referenced by the original manufacturer's name and number as well as the supplier's number.
 - d. Provide electronic media for Manuals on USB flash drive.
 - e. Internet Access. Provide Internet access to parts manuals.
 - f. Electrical schematics. Electrical schematics shall be provided in both hard copy and electronic format.
 - g. Operator Video. Provide a video for operator training of all features of the unit.

h. Main Component List. The manufacturer shall provide a dedicated (by VIN) component list for each unit delivered. The component list shall be itemized and list each main system component.

1.6 WARRANTY

- A. The snow removal equipment and attachments shall be warranted against defective materials, workmanship and performance deficiencies for a minimum period of 12 months.
- B. The successful Bidder shall be responsible for warranty work on all equipment and components, including attachments and non-factory parts.
- C. Provide point of contact name and telephone number for warranty service and parts that is available 24 hours per day, 7 days per week, 365 days per year.
- D. Bidder shall submit complete warranty information with the bid.
 - 1. The Bidder shall include with its bid a warranty statement that will include the following as a minimum:
 - a. Duration of warranty period of vehicle, engine, transmission etc.
 - b. Warranty procedure
 - c. Disclaimers
 - d. All component manufacturer warranties, which exceed the one (1) year basic vehicle warranty, shall also be included in the bid.
- E. Upon notice, the manufacturer or factory-authorized dealer shall promptly replace or repair all defective or damaged items according to the guarantee stated in this specification. All charges and or/expenses occurred in the delivery, installation or return of parts under the guaranteed provisions of this specification shall be the sole responsibility of the manufacturer/factory-authorized dealer.
- F. Vendor shall arrange at their expense for a manufacturer factory authorized service representative to perform a complete service inspection per vehicle at the Authority's facility, at 11 months after final vehicle acceptance has occurred. The Owner reserves the right to request the Vendor to complete similar inspections prior to the expiration of any extended warranties. The Owner shall receive a copy of evaluation within ten (10) days of inspection, and the Vendor will conduct any corrective action in a timely and professional manner in accordance with the stated guarantee and warranty.

PART 2 - INTENT

The Special Purpose Vehicle must be designed for one-person operation during snow removal operations on ramps, taxiways and runways. The design of these units shall ensure positive tire-to-ground tractive effort while performing snow removal operations.

PART 3 – TECHNICAL REQUIREMENTS

3.1 GENERAL DESCRIPTION

- A. The Maneuverable Chassis Carrier Vehicle with High Speed Rotary Blower must be in accordance with SAE ARP 5943. Additionally, the following Federal AIP/PFC specification requirements for SAE ARP 5943 apply:
 - 1. For conventional carrier vehicle controllability and safety, all-wheel drive must be provided.
- B. The Maneuverable Chassis Carrier Vehicle with High Speed Rotary Blower must also meet the minimum requirements as outlined in this specification.

3.2 MINIMUM PERFORMANCE & EQUIPMENT REQUIREMENTS

- A. Anticipated Uses. One-person operation for removing snow from ramps, taxiways, and runways.
- B. Required Speed and Abilities of Operation. The vehicle must:
 - 1. Sustain a speed of 10 mph on level pavement
 - 2. Carrier vehicle must be all-wheel drive.
 - 3. Snow blower capacity of 2,500 tons per hour
 - 4. Casting distance of 100-feet
- C. Steering Mechanism. Carrier vehicle must be capable of meeting a 100-ft wall to wall maximum turning test.
- D. Tires/Fenders. Tires must be sized per manufacturer standard specifications and designed for use in snow/ice conditions. Both front and rear wheel fenders must be full width with mud flaps.
- E. Cab. Cab must be fully enclosed and be both air conditioned and heated.
- F. Electrical. The electrical system must be a 12-volt system with maintenance free batteries.

PART 4 – ADDITIONAL EQUIPMENT

4.1 STANDARD EQUIPMENT

- A. In addition to supplying a vehicle meeting the minimum requirements described in Part 3 of this specification, the following equipment is standard and must be included in the base bid price. All additional equipment shall be installed and operational upon delivery.
 - 1. Specialized tools – not to include computers and electronic diagnostic machines.
 - 2. Plug-in (weatherproof) engine block heater.
 - 3. Windshield deluge system.
 - 4. Heated wipers.

5. Communications Equipment – Wiring for cab-mounted radio with roof top antenna and mounted external speaker.
6. Vehicle Safety – Provide and install a revolving/flashing yellow (amber) beacon mounted on top of vehicle and a reverse alarm that is both audible and switchable. Beacon shall meet the minimum requirements listed in FAA AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport.
7. Vehicle Safety – Supply and install one (1) in-vehicle fire extinguisher.
8. Vehicle Safety – Audible back up alarm.
9. Exterior paint and reflective markings consistent with FAA AC 150/5210-5 for “Airfield Service Vehicles”.
10. External Operational Lighting - Exterior vehicle operation lights including, but not limited to: headlights, turn signals, brake lights, taillights, etc.
11. One (1) spare rim and tire.

PART 5 – METHOD OF MEASUREMENT

5.1 BASE BID

- A. SNOW REMOVAL EQUIPMENT CARRIER VEHICLE. Maneuverable chassis carrier vehicle shall be measured per lump sum for a fully functional carrier vehicle to be used for airfield snow removal as identified in the Bid Schedule.
- B. HIGH SPEED ROTARY BLOWER. High capacity snow blower shall be measured per lump sum for a fully functional blower for airfield snow removal as identified in the Bid Schedule.

PART 6 – BASIS OF PAYMENT

6.1 BASE BID

- A. SNOW REMOVAL EQUIPMENT CARRIER VEHICLE. The Vendor shall be paid the unit price for the carrier vehicle to be used for airfield snow removal delivered to Southwest Minnesota Regional Airport in Marshall, Minnesota. Payment shall include costs for all expenses, including labor, travel, mileage, deliverables, tools, materials, equipment, supplies, training, equipment delivery, shipping, etc. necessary to provide equipment detailed in this specification with the Minimum Performance Requirements and all options detailed in Base Bid Selections.
- B. HIGH SPEED ROTARY BLOWER. The Vendor shall be paid the unit price for rotary blower for airfield snow removal delivered to Southwest Minnesota Regional Airport in Marshall, Minnesota. Payment shall include costs for all expenses, including labor, travel, mileage, deliverables, tools, materials, equipment, supplies, training, equipment delivery, shipping, etc. necessary to provide equipment detailed in this specification with the Minimum Performance Requirements and all options detailed in Base Bid Selections
- C. Payment will be made as follows:

1. Progress Payment Number 1. The first Application for Payment will be submitted after delivery of the equipment has been accepted by Owner and will be accompanied by a bill of sale and other documentation satisfactory to Owner warranting that Owner has received the equipment free and clear of all liens, charges, security interests and encumbrances and Field Testing and Startup Services have been completed and accepted by Owner and Operations and Maintenance Manuals have been delivered to Owner. Such documentation shall include releases and waivers from all parties who, during Vendor's performance under the Procurement Documents, might have obtained or filed any such lien, charge, security or encumbrance. In the case of multiple deliveries of equipment, additional Applications for Payment will be submitted as Owner accepts delivery of additional items of the equipment. For Progress Payment Number 1, Owner shall pay to Vendor an amount equal to 95% of the Contract Price. Vendor may make application for Progress Payment Number 2 or Final Payment after completion of the initial 60-day operational period.
2. Final Payment. Vendor may make application for Progress Payment Number 2 or Final Payment after completion of the initial 60-day operational period. If the Application and accompanying documentation are appropriate as to form and substance, Owner shall, within 60 days after receipt thereof, pay Vendor the amount due less any sum Owner is entitled to set off, including but not limited to liquidated damages to which Owner is entitled.

END SECTION