

State of Nebraska - INVITATION TO BID CONTRACT

Return to:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: 402-471-6500
Fax: 402-471-2089

Date	11/28/17	Page	1 of 2
Solicitation Number	5724 OF		
Opening Date and Time	12/15/17	2:00 pm	
Buyer	DIANNA GILLILAND (AS)		

DESTINATION OF GOODS
MULTIPLE DELIVERY LOCATIONS
PLEASE REFER TO DOCUMENTATION
FOR DELIVERY ADDRESSES.

Per Nebraska's Transparency in Government Procurement Act, DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

BD NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. "Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this ITB.

BD I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. §73-107 and wish to have preference, if applicable, considered in the award of this contract.

Contract to supply and deliver HYDRAULICALLY REVERSIBLE, TRIP EDGE, SNOW PLOW WITH ELEVEN FOOT STEEL MOLDBOARD to the State of Nebraska as per the attached specifications for a two (2) year period from date of award. The contract may be renewed for three (3) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

(vc 11/27/17)

INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	HYDRAULICALLY REVERSIBLE TRIP EDGE 11 FOOT STEEL SNOW PLOW	10.0000	EA	<u>5895⁰⁰</u>	<u>58950⁰⁰</u>

MAKE: Henke
MODEL: 43R11J

BIDDER MUST COMPLETE THE FOLLOWING

DISCOUNT PAYMENT TERMS: 0 % X DAYS

By signing this Invitation to Bid form, the bidder guarantees compliance with the provisions stated in this Invitation to Bid, agrees to the terms and conditions unless otherwise agreed to (see Section III) and certifies that bidder maintains a drug free work place environment. Vendor will furnish the items requested within 30 to 75 days after receipt of order. Failure to enter Delivery Date may cause quotation to be REJECTED.

Sign Richard DeKa
Here (Authorized Signature MANDATORY - MUST BE SIGNED IN INK)

Enter Contact Information Below

VENDOR#

VENDOR:

Address:

Henke MFG
3070 Wilson Ave
Leavenworth, KS 66048

Contact

Telephone

Facsimile

Email

Richard DeKa
(913) 680-9646
(913) 682-9001
RDeKa@HenkeMFG.COM

State of Nebraska - INVITATION TO BID CONTRACT

Return to:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: 402-471-6500
Fax: 402-471-2089

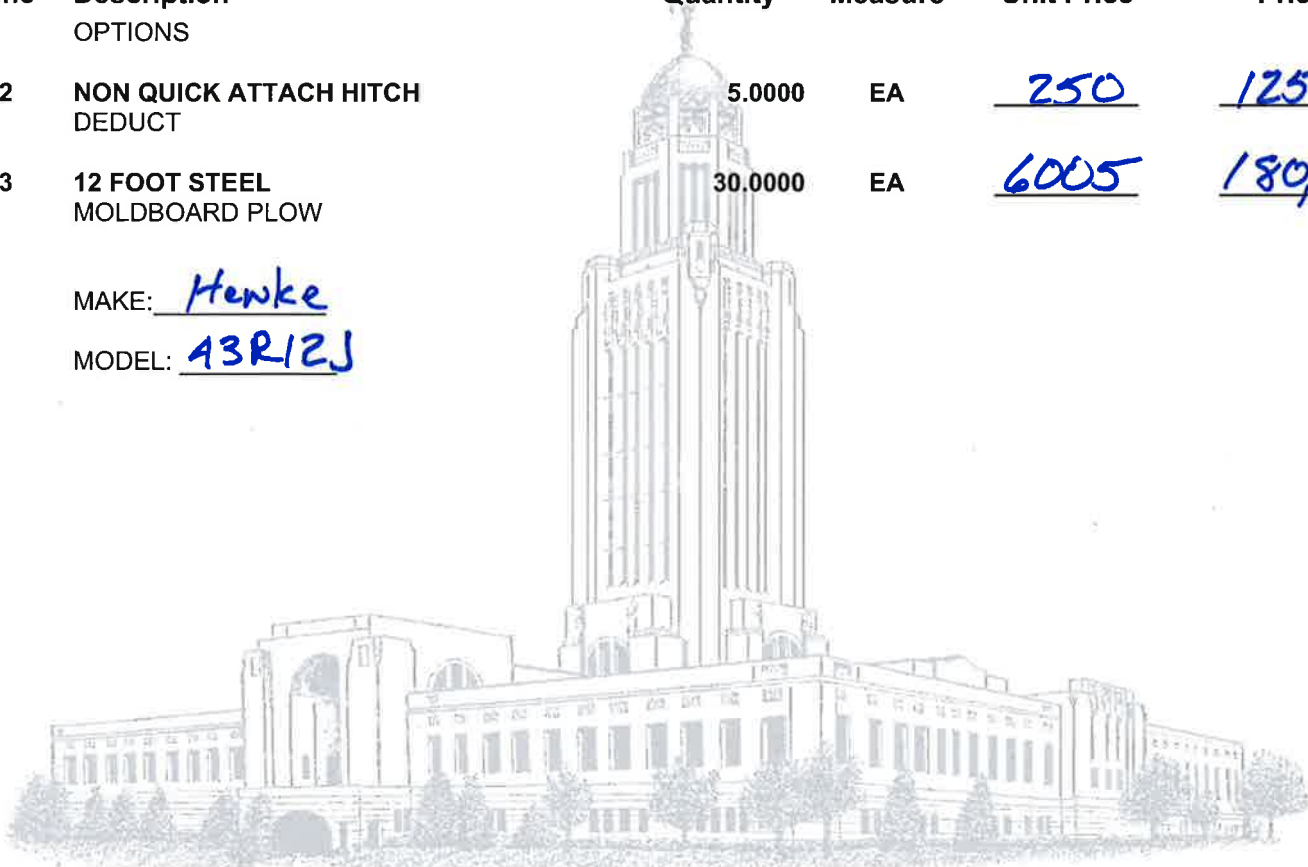
Date	11/28/17	Page	2 of 2
Solicitation Number	5724 OF		
Opening Date and Time	12/15/17	2:00 pm	
Buyer	DIANNA GILLILAND (AS)		

DESTINATION OF GOODS
MULTIPLE DELIVERY LOCATIONS
PLEASE REFER TO DOCUMENTATION
FOR DELIVERY ADDRESSES.

INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
	OPTIONS				
2	NON QUICK ATTACH HITCH DEDUCT	5.0000	EA	<u>250</u>	<u>1250</u>
3	12 FOOT STEEL MOLDBOARD PLOW	30.0000	EA	<u>6005</u>	<u>180,150⁰⁰</u>

MAKE: Henke
MODEL: A3R12J



II. TERMS AND CONDITIONS

Bidder is expected to read the Terms and Conditions and must initial either accept, reject, or reject and provide alternative language for each clause. The Bidder should also provide an explanation of why the Bidder rejected the clause or rejected the clause and provided alternate language using 'Track Changes'. Upon request an electronic copy of the bid with 'Track Changes' must be submitted in an editable Word format. By signing the ITB Bidder is agreeing to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the bid. The State reserves the right to negotiate rejected or proposed alternative language. If the State and Bidder fail to agree on the final Terms and Conditions, the State reserves the right to reject the bid. The State is soliciting bids in response to the ITB. The State reserves the right to reject bids that attempt to substitute the Bidder's commercial contracts and/or documents for this ITB.

The Bidder should submit with their bid any license, user agreement, service level agreement, or similar documents that the Bidder wants incorporated in the Contract. Upon notice of Intent to Award, the Bidder must submit a copy of these documents in an editable Word format. The State will not consider incorporation of any document not submitted with the Bidder's bid. These documents shall be subject to negotiation and will be incorporated as addendums if agreed to by the Parties.

If a conflict or ambiguity arises after the addendums have been negotiated and agreed to, the addendums shall be interpreted as follows:

1. If only one (1) Party's document has a particular clause then that clause shall control;
2. If both Party's documents have a similar clause, but the clauses do not conflict, the clauses shall be read together;
3. If both Party's documents have a similar clause, but the clauses conflict, the State's clause shall control.

A. GENERAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
BAD			

The contract resulting from this ITB shall incorporate the following documents:

1. Invitation to Bid and Addenda;
2. Amendments to the ITB;
3. Questions and Answers;
4. Contractor's bid (ITB);
5. Award;
6. The executed Contract and any Addenda; and,
7. Amendments to the Contract

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a future contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to the executed Contract with the most recent dated amendment having the highest priority, 2) executed Contract and any attached Addenda, 3) Amendments to ITB and any Questions and Answers, 4) the original ITB document and any Addenda, and 5) the Contractor's submitted Bid.

Any ambiguity or conflict in the contract discovered after its execution, not otherwise addressed herein, shall be resolved in accordance with the rules of contract interpretation as established in the State.

B. NOTIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
BAD			

Contractor and State shall identify the contract manager who shall serve as the point of contact for the executed contract.

Communications regarding the executed contract shall be in writing and shall be deemed to have been given if delivered personally or mailed, by U.S. Mail, postage prepaid, return receipt requested, to the parties at their respective addresses set forth below, or at such other addresses as may be specified in writing by either of the parties. All notices, requests, or communications shall be deemed effective upon personal delivery or five (5) calendar days following deposit in the mail.

Either party may change its address for notification purposes by giving notice of the change, and setting forth the new address and an effective date.

C. GOVERNING LAW

Notwithstanding any other provision of this contract, or any amendment or addendum(s) entered into contemporaneously or at a later time, the parties understand and agree that, (1) the State of Nebraska is a sovereign state and its authority to contract is therefore subject to limitation by the State's Constitution, statutes, common law, and regulation; (2) this contract will be interpreted and enforced under the laws of the State of Nebraska; (3) any action to enforce the provisions of this agreement must be brought in the State of Nebraska per state law; (4) the person signing this contract on behalf of the State of Nebraska does not have the authority to waive the State's sovereign immunity, statutes, common law, or regulations; (5) the indemnity, limitation of liability, remedy, and other similar provisions of the final contract, if any, are entered into subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity; and, (6) all terms and conditions of the final contract, including but not limited to the clauses concerning third-party use, licenses, warranties, limitations of liability, governing law and venue, usage verification, indemnity, liability, remedy or other similar provisions of the final contract are entered into specifically subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity.

The Parties must comply with all applicable local, state and federal laws, ordinances, rules, orders, and regulations.

D. CHANGE ORDERS OR SUBSTITUTIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
BTD			

The State and the Contractor, upon the written agreement, may make changes to the contract within the general scope of the ITB. Changes may involve specifications, the quantity of work, or such other items as the State may find necessary or desirable. Corrections of any deliverable, service, or work required pursuant to the contract shall not be deemed a change. The Contractor may not claim forfeiture of the contract by reasons of such changes.

The State or Contractor may prepare a written description of the work required due to the change and the Contractor shall prepare an itemized cost sheet for the change. Changes in work and the amount of compensation to be paid to the Contractor shall be determined in accordance with applicable unit prices if any, a pro-rated value, or through negotiations. The State shall not incur a price increase for changes that should have been included in the Contractor's bid, were foreseeable, or result from difficulties with or failure of the Contractor's bid or performance.

No change shall be implemented by the Contractor until approved by the State, and the Contract is amended to reflect the change and associated costs, if any. If there is a dispute regarding the cost, but both parties agree that immediate implementation is necessary, the change may be implemented, and cost negotiations may continue with both Parties retaining all remedies under the contract and law.

Vendor will not substitute any item that has been awarded without prior written approval of SPB.

E. BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RTD			

Either Party may terminate the contract, in whole or in part, if the other Party breaches its duty to perform its obligations under the contract in a timely and proper manner. Termination requires written notice of default and a thirty (30) calendar day (or longer at the non-breaching Party's discretion considering the gravity and nature of the default) cure period. Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with proof of delivery. Allowing time to cure a failure or breach of contract does not waive the right to immediately terminate the contract for the same or different contract breach which may occur at a different time.

In case of breach by the Contractor, the State may, without unreasonable delay, make a good faith effort to make a reasonable purchase or contract to purchased goods in substitution of those due from the contractor. The State may recover from the Contractor as damages the difference between the costs of covering the breach. Notwithstanding any clause to the contrary, the State may also recover the contract price together with any incidental or consequential damages defined in UCC Section 2-715, but less expenses saved in consequence of Contractor's breach.

The State's failure to make payment shall not be a breach, and the Contractor shall retain all available statutory remedies. (See Indemnity - Self-Insurance and Payment)

F. NON-WAIVER OF BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RTD			

The acceptance of late performance with or without objection or reservation by a Party shall not waive any rights of the Party nor constitute a waiver of the requirement of timely performance of any obligations remaining to be performed.

G. SEVERABILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RTD			

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the provision held to be invalid or illegal.

H. INDEMNIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RTD			

1. GENERAL

The Contractor agrees to defend, indemnify, and hold harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State for personal injury, death, or property loss or damage, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, resulting from this contract, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

2. SELF-INSURANCE (Statutory)

The State is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this agreement, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §81-8,829 through 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 et seq. and under any other provisions of law and accepts liability under this agreement to the extent provided by law.

I. ATTORNEY'S FEES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
BTD			

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Parties agree to pay all expenses of such action, as permitted by law and if order by the court, including attorney's fees and costs, if the other party prevails.

J. ASSIGNMENT, SALE, OR MERGER

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
BTD			

Either party may assign the contract upon mutual written agreement of the other party. Such agreement shall not be unreasonably withheld.

The Contractor retains the right to enter into a sale, merger, acquisition, internal reorganization, or similar transaction involving Contractor's business. Contractor agrees to cooperate with the State in executing amendments to the contract to allow for the transaction. If a third party or entity is involved in the transaction, the Contractor will remain responsible for performance of the contract until such time as the person or entity involved in the transaction agrees in writing to be contractually bound by this contract and perform all obligations of the contract.

K. CONTRACTING WITH OTHER POLITICAL SUB-DIVISIONS OF THE STATE OR ANOTHER STATE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
BTD			

The Contractor may, but shall not be required to, allow agencies, as defined in Neb. Rev. Stat. §81-145, to use this contract. The terms and conditions, including price, of the contract may not be amended. The State shall not be contractually obligated or liable for any contract entered into pursuant to this clause.

The Contractor may, but shall not be required to, allow other states, agencies or divisions of other states, or political subdivisions of other states to use this contract. The terms and conditions, including price, of this contract shall apply to any such contract, but may be amended upon mutual consent of the Parties. The State of Nebraska shall not be contractually or otherwise obligated or liable under any contract entered into pursuant to this clause. The State shall be notified if a contract is executed based upon this contract.

L. FORCE MAJEURE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
BTD			

Neither party shall be liable for any costs or damages, or for default resulting from its inability to perform any of its obligations under the contract due to a natural or manmade event outside the control and not the fault of the affected party ("Force Majeure Event"). The Party so affected shall immediately make a written request for relief to the other party, and shall have the burden of proof to justify the request. The other Party may granted the relief requested; relief may not be unreasonably withheld. Labor disputes with the impacted party's own employees will not be considered a Force Majeure Event.

M. CONFIDENTIALITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RAD			

All materials and information provided by the Parties or acquired by a Party on behalf of the other Party shall be regarded as confidential information. All materials and information provided or acquired shall be handled in accordance with federal and state law, and ethical standards. Should said confidentiality be breached by a Party, the Party shall notify the other Party immediately of said breach and take immediate corrective action.

It is incumbent upon the Parties to inform their officers and employees of the penalties for improper disclosure imposed by the Privacy Act of 1974, 5 U.S.C. 552a. Specifically, 5 U.S.C. 552a (i)(1), which is made applicable by 5 U.S.C. 552a (m)(1), provides that any officer or employee, who by virtue of his/her employment or official position has possession of or access to agency records which contain individually identifiable information, the disclosure of which is prohibited by the Privacy Act or regulations established thereunder, and who knowing that disclosure of the specific material is prohibited, willfully discloses the material in any manner to any person or agency not entitled to receive it, shall be guilty of a misdemeanor and fined not more than \$5,000.

N. EARLY TERMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
BTD			

The contract may be terminated as follows:

1. The State and the Contractor, by mutual written agreement, may terminate the contract at any time.
2. The State, at its sole discretion, may terminate the contract for any reason upon thirty (30) calendar day's written notice to the Contractor. Such termination shall not relieve the Contractor of warranty or other service obligations incurred under the terms of the contract. In the event of termination the Contractor shall be entitled to payment, determined on a pro rata basis, for products or services satisfactorily performed or provided.
3. The State may terminate the contract immediately for the following reasons:
 - a. if directed to do so by statute;
 - b. Contractor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business;
 - c. a trustee or receiver of the Contractor or of any substantial part of the Contractor's assets has been appointed by a court;
 - d. fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Contractor, its employees, officers, directors, or shareholders;
 - e. an involuntary proceeding has been commenced by any party against the Contractor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Contractor has consented, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Contractor has been decreed or adjudged a debtor;
 - f. a voluntary petition has been filed by the Contractor under any of the chapters of Title 11 of the United States Code;
 - g. Contractor intentionally discloses confidential information;
 - h. Contractor has or announces it will discontinue support of the deliverable; and,
 - i. In the event funding is no longer available.

O. CONTRACT CLOSEOUT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
PAB			

Upon termination of the contract for any reason the Contractor shall within thirty (30) days, unless stated otherwise herein:

1. Transfer all completed or partially completed deliverables to the State;
2. Transfer ownership and title to all completed or partially completed deliverables to the State;
3. Return to the State all information and data, unless the Contractor is permitted to keep the information or data by contract or rule of law. Contractor may retain one copy of any information or data as required to comply with applicable work product documentation standards or as are automatically retained in the course of Contractor's routine back up procedures;
4. Cooperate with any successor contactor, person or entity in the assumption of any or all of the obligations of this contract;
5. Cooperate with any successor contactor, person or entity with the transfer of information or data related to this contract;
6. Return or vacate any state owned real or personal property;

Nothing in this Section should be construed to require the Contractor to surrender intellectual property, real or person property, or information or data owned by the Contractor for which the State has no legal claim.

III. CONTRACTOR DUTIES

A. INDEPENDENT CONTRACTOR / OBLIGATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RAD			

It is agreed that the Contractor is an independent contractor and that nothing contained herein is intended or should be construed as creating or establishing a relationship of employment, agency, or a partnership.

The Contractor is solely responsible for fulfilling the contract. The Contractor or the Contractor's representative shall be the sole point of contact regarding all contractual matters.

The Contractor shall secure, at its own expense, all personnel required to perform the services under the contract. The personnel the Contractor uses to fulfill the contract shall have no contractual or other legal relationship with the State; they shall not be considered employees of the State and shall not be entitled to any compensation, rights or benefits from the State, including but not limited to, tenure rights, medical and hospital care, sick and vacation leave, severance pay, or retirement benefits.

By-name personnel commitments made in the Contractor's bid shall not be changed without the prior written approval of the State. Replacement of these personnel, if approved by the State, shall be with personnel of equal or greater ability and qualifications.

The Contractor warrants that all persons assigned to the project shall be employees of the Contractor or a Subcontractor, and shall be fully qualified to perform the work required herein. Personnel employed by the Contractor or a subcontractor to fulfill the terms of the contract shall remain under the sole direction and control of the Contractor or the subcontractor respectively.

With respect to its employees, the Contractor agrees to be solely responsible for the following:

1. Any and all pay, benefits, and employment taxes and/or other payroll withholding;
2. Any and all vehicles used by the Contractor's employees, including all insurance required by state law;
3. Damages incurred by Contractor's employees within the scope of their duties under the contract;
4. Maintaining Workers' Compensation and health insurance that complies with state and federal law and submitting any reports on such insurance to the extent required by governing law;
5. Determining the hours to be worked and the duties to be performed by the Contractor's employees; and,
6. All claims on behalf of any person arising out of employment or alleged employment (including without limit claims of discrimination alleged against the Contractor, its officers, agents, or subcontractors or subcontractor's employees).

If the Contractor intends to utilize any subcontractor, the Subcontractor's level of effort, tasks, and time allocation must be clearly defined in the Contractor's bid. The Contractor shall agree that it will not utilize any Subcontractors not specifically included in its bid in the performance of the contract without the prior written authorization of the State.

The State reserves the right to require the Contractor to reassign or remove from the project any Contractor or Subcontractor employee.

Contractor shall insure that the terms and conditions contained in any contract with a sub-contractor does not conflict with the terms and conditions of this contract.

The Contractor shall include a similar provision, for the protection of the State, in the contract with any Subcontractor engaged to perform work on this contract.

B. EMPLOYEE WORK ELIGIBILITY STATUS

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing work within the State. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and

Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

1. The Contractor must complete the United States Citizenship Attestation Form, available on the DAS website at <http://das.nebraska.gov/materiel/purchasing.html>

The completed United States Attestation Form should be submitted with the ITB response.

2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the U.S. Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. § 4-108.

C. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION (Statutory)

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §48-1101 through 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all Subcontracts for goods or services to be covered by any contract resulting from this ITB.

D. COOPERATION WITH OTHER CONTRACTORS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
PTD			

Contractor may be required to work with or in close proximity to other contractors or individuals that may be working on the same or different projects. The Contractor shall agree to cooperate with such other contractors or individuals, and shall not commit or permit any act which may interfere with the performance of work by any other contractor or individual. Contractor is not required to compromise Contractor's intellectual property or proprietary information unless expressly required to do so by this contract.

E. PERMITS, REGULATIONS, LAWS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
PTD			

The contract price shall include the cost of all royalties, licenses, permits, and approvals, whether arising from patents, trademarks, copyrights or otherwise, that are in any way involved in the contract. The Contractor shall obtain and pay for all royalties, licenses, and permits, and approvals necessary for the performance of the contract. The Contractor must guarantee that it has the full legal right to the materials, supplies, equipment, software, and other items used to execute this contract.

F. NOTICE OF POTENTIAL CONTRACTOR BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RAW			

If Contractor breaches the contract or anticipates breaching the contract the Contractor shall immediately give written notice to the State. The notice shall explain the breach or potential breach, and may include a request for a waiver of the breach if so desired. The State may, at its discretion, temporarily or permanently waive the breach. By granting a temporary waiver, the State does not forfeit any rights or remedies to which the State is entitled by law or equity, or pursuant to the provisions of the contract. Failure to give immediate notice, however, may be grounds for denial of any request for a waiver of a breach.

G. ANTITRUST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RAW			

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

H. CONFLICT OF INTEREST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RAW			

By submitting a bid, Contractor certifies that there does not now exist a relationship between the Contractor and any person or entity which is or gives the appearance of a conflict of interest related to this ITB or project.

The Contractor certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the delivery of its goods hereunder or which creates an actual or an appearance of conflict of interest.

The Contractor certifies that it will not employ any individual known by Contractor to have a conflict of interest.

The Parties shall not knowingly, for a period of two years after execution of the contract, recruit or employ any employee or agent of the other Party who has worked on the ITB or project, or who had any influence on decisions affecting the ITB or project.

I. ADVERTISING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RAW			

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its goods are endorsed or preferred by the State. Any publicity releases pertaining to the project shall not be issued without prior written approval from the State.

J. DRUG POLICY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RAB			

Contractor certifies it maintains a drug free work place environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

IV. PAYMENT

A. PROHIBITION AGAINST ADVANCE PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
PTW			

Neb. Rev. Stat. §§ 73-501 through 73-509 says “payments shall be made when contractual deliverables are received or in accordance with specific contractual terms and conditions.” Standard term is to pay after deliverables and that any alteration of that standard term should be carefully considered and used only when absolutely necessary to accommodate certain critical exceptions, i.e. insurance premiums, etc. that must be paid in advance.)

Payments shall not be made until contractual deliverable(s) are received and accepted by the State.

B. TAXES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
PTW			

The State is not required to pay taxes and assumes no such liability as a result of this solicitation. The Contractor may request a copy of the Nebraska Department of Revenue, Nebraska Resale or Exempt Sale Certificate for Sales Tax Exemption, Form 13 for their records. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

C. INVOICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
PTW			

Invoices for payments must be submitted by the Contractor to the agency requesting the services with sufficient detail to support payment. The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

D. INSPECTION AND APPROVAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
PTW			

VI. INVITATION TO BID - TECHNICAL SPECIFICATIONS

A. BIDDER INSTRUCTIONS

Bidder must respond to each of the following statements. Specifications listed are minimum conditions that must be met in order for a Bidder to qualify for the award.

“YES” response means the Bidder guarantees they can meet this condition.

“NO” response means the Bidder cannot meet this condition and will not be considered.

“NO & PROVIDE ALTERNATIVE” responses should be used only with a narrative response in the NOTES/COMMENTS section explaining in detail any deviation from the Bidder’s ability to meet the condition, and an explanation of how this would be determined to be an acceptable alternative to meeting the condition. Alternatives must be detailed in such a way that allows such deviations to be fully evaluated. The State shall determine at its sole discretion whether or not the Bidder’s alternative is an acceptable alternative.

B. NON-COMPLIANCE STATEMENT

YES	NO	NO & PROVIDE ALTERNATIVE	
RAD			1. Read these specifications carefully. Any and all exceptions to these specifications must be written on or attached to quotation request. Any noncompliance may void your quotation. Non-compliance to any single specification can void your quotation.
RAD			2. It is the responsibility of Bidders to obtain information and clarifications as provided below. The State is not responsible for any erroneous or incomplete understandings or wrongful interpretations of this ITB by any Bidder.
RAD			3. No interpretation related to the meaning of bid specifications or other pre-bid documents will be made orally to any Bidder by the State. Any ITB interpretation must be put in writing and faxed by the Bidder to: the State Purchasing Bureau, Fax (402) 471-2089 or e-mailed to AS Materiel Purchasing as.materielpurchasing@nebraska.gov by the last day to submit written questions that is specified in the Schedule of Events. (Inquiries received after the last day to submit written questions may not be addressed).
NOTES/COMMENTS:			

C. MOLDBOARD ASSEMBLY

YES	NO	NO & PROVIDE ALTERNATIVE	
RAD			1. Overall width of eleven feet.
RAD			2. Inverted “J” design per the drawing attached, Attachment 1.
RAD			3. Thickness of moldboard of seven gauge or 3/16 inch sheet.
RAD			4. Cutting edge of ½ inch by six inches by eleven feet and AASHTO punched.

RHD			5. Minimum cutting angle to right and left of 35 degrees.
RHD			6. Approximate weight of plow without hitch and lift to be 2,000 to 2,500 pounds.
RHD			7. One-piece trip edge with six adjustable torsion springs.
RHD			a. Springs shall be from not less than 3/4 inch square wire, having a 3-3/4 inch O.D. with fifteen active coils each.
RHD			b. Each spring shall be pinned in place in a horizontal position and shall butt to the lower moldboard reinforcement and to the cutting edge reinforcement.
RHD			c. Spring adjustment shall be provided so as to alter the pre-charge of springs for varying plowing conditions.
RHD			d. Spring shaft shall be a solid rod.
RHD			8. Trip edge backing assembly shall be one continuous piece.
RHD			9. Moldboard shall be mounted on the reversing frame in such a manner so as to allow maximum blade wear without damage to bottom horizontal moldboard brace, blade attachment member and other components.
RHD			10. Manufacturer's continuous, integral design, solid snow shield (built-in-baffle) is required at the upper portion of the moldboard.
RHD			a. Moldboard top angle must be pre-punched for a rubber snow deflector prior to painting.
RHD			b. A rubber snow deflector will be furnished. It will consist of a 12 inch wide x 3/8 inch thick, 3-ply rubber belt, metal retaining strap and necessary mounting hardware.
RHD			c. The snow deflector will be mounted so that the rubber flap hangs vertically to the ground.
RHD			11. Moldboard will be hydraulically reversing type with dual hydraulic cylinders.
RHD			a. Minimum 3-1/2 inch cylinders with a 3 inch rod will be furnished.
RHD			b. The cylinder rod will be a hardened Nitride tensile steel.
RHD			12. Level lift system, regardless of rotational position of moldboard is required.
RHD			a. Plow must remain level to the road surface when reversed while in the raised position.
RHD			13. Moldboard must have ten 1/2 inch one piece steel reinforcing ribs.
RHD			14. Plow moldboard and vertical ribs shall be 100% welded. Stitch or skip welding will not be acceptable.

RWD			15. All pivot points will have grease zerks or fittings.
NOTES/COMMENTS:			

D. HYDRAULICS

YES	NO	NO & PROVIDE ALTERNATIVE	
RWD			1. Adequate length of ½ inch steel-braided hose, rated at 3,000 psi that reaches from reversing cylinders to front of chassis required.
RWD			2. Hoses with ISO 16028 flat face interchange couplings meeting ISO 9227 standards to a minimum of 400 hours salt spray test. One male and one female coupler.
RWD			a. Example of couplers: Faster FFH0812NPT/Faster FFH0812NPTM (FPQ Premier) Parker FEM-501-8FP-ZP/Parker FEM-502-8FP-ZJ (XTR) Stucchi Part #2317188/2317189 (Z plated).
RWD			3. Hydraulic cushion valve shall be furnished. Cushion valve must be adjustable to protect the reversing cylinders and mechanism.
NOTES/COMMENTS:			

E. A-FRAME ASSEMBLY

YES	NO	NO & PROVIDE ALTERNATIVE	
RWD			1. The A-Frame shall be a triangular weldment with 3/8-inch thick steel plates (top and bottom) a rear member from not less than 1 inch thick steel plate and two center reinforcements from not less than 3/8 inch thick steel plate, so to form a boxed center section.
RWD			a. The height of the boxed center section shall be 5-3/4 inches.
RWD			2. A truss frame shall include a main drive member from 4 inch square tubing with 3/8-inch wall.
RWD			3. The truss frame shall pin to the moldboard at not less than 4 points over a span of not less than 82 inches and shall include two moldboard braces made from two inch square tubing with 1.-1/8 inch diameter attaching pins which allow for alternate moldboard positioning.
RWD			4. Moldboard and truss frame shall pivot about the A-Frame on a lubricated pin, not less than 2-1/2 inches in diameter, up to 37 degrees either side of the chassis centerline. The pin shall be designed in such a way that it will be easily removed for maintenance.

NOTES/COMMENTS:

F. QUICK HITCH ASSEMBLE

YES	NO	NO & PROVIDE ALTERNATIVE	
RHD			1. Be equipped with Universal Quick Attach system.
RHD			a. Plow portion must be compatible to existing Monroe Universal Quick Attach system truck portion hitches.
RHD			2. The snow plow push frame shall be designed with an automatic quick hitch type latching mechanism.
RHD			3. The design of the latch mechanism shall allow the plow to swivel freely so that it can follow the contour of the road.
RHD			4. The lock mechanisms must be welded 100% to the channel.
RHD			5. The latching mechanisms shall be automatic, spring loaded, adjustable and single lever to release the two (2) steel latching mechanisms..
RHD			6. The heavy duty latch mechanisms hold the plow portion of the hitch to the truck portion.
RHD			7. The single locking lever shall be retained in either the lock or the released position.
RHD			8. In the locked position the truck must be able to be driven into the hitch, have it self-align and lock automatically.
RHD			9. The design of the quick hitch MUST incorporate a double lock. A single lock hitch is unacceptable.
RHD			10. Lifting chains with miscellaneous hardware for attaching to top lifting arm must be provided.
RHD			11. All pins for attaching push frame to moldboard must be made of stress proof steel.

NOTES/COMMENTS:

G. COLOR REQUIREMENTS

YES	NO	NO & PROVIDE ALTERNATIVE	
RHD			1. Flat black enamel except for plowing surface.

RAD			2. Plowing surface to be painted aluminum.
RAD			3. All components must be painted prior to assembly to prevent unpainted areas of push frame.
NOTES/COMMENTS:			

H. MANUALS

YES	NO	NO & PROVIDE ALTERNATIVE	
RAD			1. One operator's manual or instructions to be furnished and accompany each unit delivered.
RAD			2. All manuals must be furnished prior to payment and delivered to Fleet Management, Equipment Data Coordinator.
NOTES/COMMENTS:			

I. WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
RAD			1. The manufacturer's usual warranty shall apply and shall be in effect for at least one year after field assignment.
NOTES/COMMENTS:			

J. GENERAL REQUIREMENTS

YES	NO	NO & PROVIDE ALTERNATIVE	
RAD			1. Dealer's decals, stickers or other signs shall not be affixed to units; manufacturer's nameplates, stampings and other similar signs are acceptable.
RAD			2. Units must be completely assemble and ready for use.
RAD			3. Vendor will weld Department or Transportation furnished 5 digit equipment number on body of plow. The digit number will be between two and four inches high and be welded on before painting.

NOTES/COMMENTS:

K. ATTACHMENT – NON QUICK ATTACH FOR HYDRAULICALLY REVERSIBLE SNOW PLOW

YES	NO	NO & PROVIDE ALTERNATIVE	
RTD			1. A-FRAME
RTD			A. The attaching ears from the A-frame will be made thirty inches plus or minus ½ inch from centerline to centerline of the ears.
RTD			B. Width of ears to be on inch steel or reinforced cast iron.
RTD			C. Attaching pin holes to be 1-5/16 inches in diameter.
RTD			D. Lifting chains with miscellaneous hardware for attaching to top lifting arm must be provided.
RTD			E. Snow plow hitch with top lifting arm for truck is not required.
RTD			F. Bottom attaching pins are also no required.
NOTES/COMMENTS:			

L. ANNAUL USAGE, ESTIMATED

YES	NO	NO & PROVIDE ALTERNATIVE	
RTD			1. Annual usage figures provided are estimates and are not to be construed as either a minimum or maximum purchase quantity. The orders shall be for the actual quantities of each item ordered by or for any agency during the life of the contract. Vendor shall not impose minimum order requirements.
RTD			2. Insert annual estimated usage here (may use Table Tools/Draw Table function to add more lines or may enlarge the size of the table to accommodate specifications)
NOTES/COMMENTS:			

M. USAGE REPORT

YES	NO	NO & PROVIDE ALTERNATIVE	
RAO			1. The vendor shall, provide a quarterly usage report of this contract by state agencies and political subdivisions. Information will include agency name, item, and dollar amount. Information may be requested at any time by the SPB, as determined by the State.
NOTES/COMMENTS:			

N. DELIVERY AFTER RECEIPT OF ORDER

YES	NO	NO & PROVIDE ALTERNATIVE	
RAO			1. Delivery desired within 45 – 60 days after receipt of order(s). At the time of delivery, a designated State employee will sign the "invoice/packing slip." This signature will only indicate that the order has been received and that the items actually delivered agree with the delivery invoice. This signature does not indicate all items were received in good condition and/or that there is not possible hidden damage.
NOTES/COMMENTS:			

O. DELIVERY LOCATION

YES	NO	NO & PROVIDE ALTERNATIVE	(BIDDER IS CERTIFYING THAT THEY CAN MEET THE DELIVER LOCATIONS/INSTRUCTIONS)
RAO			1. Nebraska Department of Transportation. 5001 S 14th Lincoln NE 68512
NOTES/COMMENTS:			

P. PACKAGING

YES	NO	NO & PROVIDE ALTERNATIVE	
RAO			1. Cartons are to be clearly marked with size, weight, color, quantity, and the purchase order number. Cartons must be of suitable size and of sufficient strength to protect the contents during shipping, handling and storage.
NOTES/COMMENTS:			

Q. ORDERS

YES	NO	NO & PROVIDE ALTERNATIVE	
R+D			<p>1. Orders will be placed either by, phone, fax, e-mail or Internet (if available and not to the exclusion of the other methods). All orders must reference a purchase order number and the purchase order number must be referenced on the packing slip, and invoice. Invoices are to be sent to the "Invoice to" address on the purchase order.</p>
NOTES/COMMENTS:			

R. QUALITY

YES	NO	NO & PROVIDE ALTERNATIVE	
R+D			<p>1. Product quality must meet specifications and be consistent for the term of the contract. A guarantee of satisfactory performance by the supplier and meeting delivery dates are considered to be an integral part of the purchase contract resulting from this bid invitation. All materials must be of first quality, under standard production by the manufacturer and be of standard design, complete as regularly advertised and marketed and be of proven performance. Products are to be fully guaranteed and may be returned for full credit or replacement (at the State's option) for any reason during the initial warranty period with no additional charges for shipping or restocking.</p>
NOTES/COMMENTS:			

S. PRICES

YES	NO	NO & PROVIDE ALTERNATIVE	
R+D			<p>1. Price quoted shall be unit price and shall be firm for 180 days from date of an award and are to be net; including transportation and delivery charges fully prepaid by the Bidder F.O.B. Destination as specified. No additional charges will be allowed for packing, handling, fuel surcharge, or partial delivery costs. Any request for an increase must be submitted in writing to the SPB a minimum of thirty (30) days prior to proposed effective date of increase, and must show cause and be accompanied by supporting documentation (such as notification letter from manufacturer). Further documentation may be required by the State, to authenticate the increase (such as manufacturer invoices). Failure to supply any requested supporting documentation may be grounds to cancel the contract. In no instance may a price increases be billed to the State until the contract is amended. The State further reserves the right to reject any proposed price increase(s), cancel the contract and re-bid if determined to be in the best interest of the State. The State will be given full proportionate benefit of any decrease for the term of the contract. Contract supplier or suppliers may honor pricing and extend the contract to political sub-divisions, cities, and counties. Terms and conditions of the contract must be met by political sub-divisions, cities, and counties.</p>

NOTES/COMMENTS:

T. AUTHORIZED DEALER & WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
RAH			1. To the extent required by the manufacturer, the Bidder shall be an authorized dealer. Bidder may be required to substantiate that he/she is an authorized dealer. Proof, if required, must be submitted to the SPB within three (3) days of the request and prior to the award of any contract. The terms of the original manufacturer's standard warranty shall apply to all equipment acquired from this solicitation for the entire warranty period.
NOTES/COMMENTS:			

U. WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
RAH			1. Contractor must warrant the average life expectancy supplies hereunder to be not less than that stated in the manufacturer's price list and agree to replace, without cost, all supplies failing to meet this requirement, except where the reduced life is due to conditions beyond the control of the Contractor. Defective parts or those damaged in shipment must be replaced by the Contractor at no charge to the State. The manufacturer's standard warranty shall apply and be in effect for at least one (1) year from the date the equipment was placed in service.
NOTES/COMMENTS:			

V. SUBSTITUTIONS

YES	NO	NO & PROVIDE ALTERNATIVE	
RAH			1. Vendor will not substitute any item that has been awarded without prior written approval of SPB.
NOTES/COMMENTS:			

W. SECRETARY OF STATE REGISTRATION REQUIREMENTS

CHOOSE "YES" TO BEST ANSWER ONLY, CHOOSE "NO" FOR REMAINING LINES

YES	NO	*Prior to contract award and/or upon request of SPB, potential award recipient(s) will be asked to certify compliance with Nebraska Secretary of State Registration by providing a true and exact copy of current (dated within 90 days) valid Certificate of Good Standing or Letter of Good Standing.
RFD		<p>1. Bidder is a SOLE PROPRIETORSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required)</p> <p>If the Bidder is an Individual or Sole Proprietorship, the following applies:</p> <p>a. The Bidder must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at http://das.nebraska.gov/materiel/purchasing.html</p> <p>The completed United States Attestation Form should be submitted with the Invitation to Bid response.</p> <p>b. If the Bidder indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the U.S. Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.</p> <p>c. The Bidder understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. § 4-108.</p>
RFD		<p>2. Bidder is a GENERAL PARTNERSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required).</p>
RFD		<p>3. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State is provided within bid submission documents.</p>
RFD		<p>4. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State will be provided in a timely manner upon request prior to award.</p>

Form A
Bidder Contact Sheet
Invitation To Bid Number 5724 OF

Form A should be completed and submitted with each response to this ITB. This is intended to provide the State with information on the Bidder's name and address, and the specific person(s) who are responsible for preparation of the Bidder's response.

Preparation of ITB Contact Information	
Bidder Name:	Henke MFG
Bidder Address:	3070 Wilson Ave Leavenworth, KS 66048
Contact Person & Title:	Rich Deka RSM
E-mail Address:	RDeKa@HenkeMfg.com
Telephone Number (Office):	(913) 682-9000
Telephone Number (Cellular):	(913) 680-9646
Fax Number:	(913) 682-9001

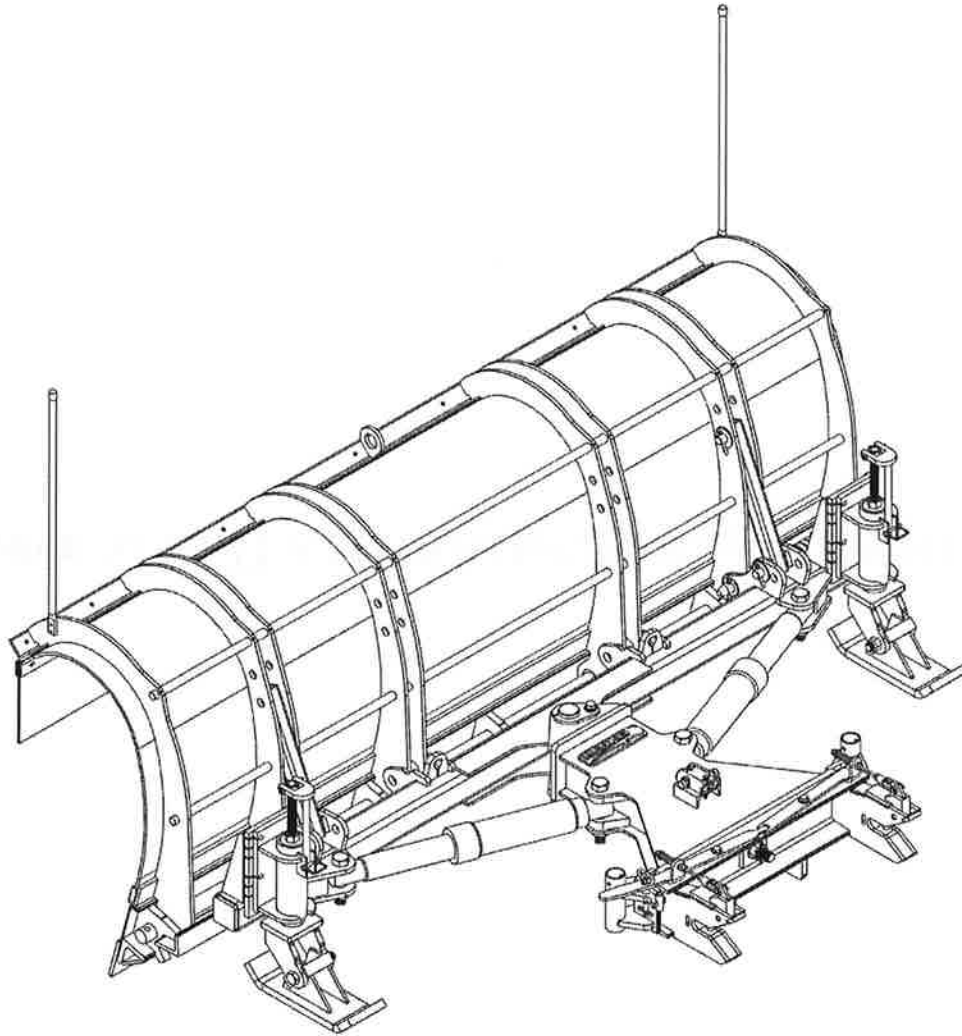
Each Bidder shall also designate a specific contact person who will be responsible for responding to the State if any clarifications of the Bidder's response should become necessary.

Communication with the State Contact Information	
Bidder Name:	Henke MFG
Bidder Address:	3070 Wilson Ave Leavenworth, KS 66048
Contact Person & Title:	Rich Deka
E-mail Address:	RDeKa@HenkeMfg.com
Telephone Number (Office):	(913) 682-9000
Telephone Number (Cellular):	(913) 680-9646
Fax Number:	(913) 682-9001

SQUARE SPRING TORSION TRIP EDGE PLOW

HENKE MODEL: SSTE

For Medium to Heavy Duty Trucks



SERIAL NUMBER: _____

**PARTS BOOK AND INSTALLATION MANUAL
VERSION 3.4, NOVEMBER 2014**



HENKE MANUFACTURING CORPORATION

MANUFACTURERS OF SNOW REMOVAL EQUIPMENT FOR 95 YEARS
3070 WILSON AVE. LEAVENWORTH, KS 66048 PHONE(913)682-9000 FAX(913)682-0300
WEBSITE ADDRESS : WWW.HENKEMFG.COM EMAIL: PARTS@HENKEMFG.COM

REPLACEMENT SPRING
FORSTON TRIP EDGE FLOW
REPLACEMENT
FORSTON TRIP EDGE FLOW

<<THIS PAGE IS INTENTIONALLY LEFT BLANK>>

Introduction

Thank you for your purchase of a Henke Square Spring Torsion Trip Edge Plow Reversible Snow Plow. Your new Henke plow is designed with heavy-duty features for years of reliable use.

In addition to their field-proven standard units, Henke designs and manufactures many plows and hitches to meet specific customer requirements.

The parts lists and plow diagrams for the Torsion Trip Edge snow plow are provided in the following pages along with general maintenance recommendations. Verify that you have received your entire order before using your plow. Call Henke at 913-682-9000 if you need any replacement parts, or if we can provide you any other assistance.

Table of Contents

Introduction 2

Safety 6

Setup and Operation 7

Maintenance..... 8

Installation Diagrams 9

Parts Lists 10

Spring Force Adjustment, Henke Square-Spring Torsion Tripedge Plow..... 14

Running Gear 20

Cutting Edges, Curb Guards, Wear Guards 31

Warranty Policy & Procedure 33

List of Figures

FIGURE 1 - Henke Square Spring Torsion Tripedge Plow.....	COVER
FIGURE 2 - Henke Square Spring Torsion Tripedge Plow, Parts View.....	10
FIGURE 3 - Manual Reversing Option	13
FIGURE 4 - Spring Force Adjustment, Henke Square-Spring Torsion Tripedge Plow ..	14
FIGURE 5 - 3-piece Chain Lift Assembly	16
FIGURE 6 - Basic Installation Procedures for 3-Piece Chain Lift Assembly.....	17
FIGURE 7 - Optional Cable Lift Assembly.....	18
FIGURE 8 - Spring Loaded Running Gear	20
FIGURE 9 - Henke 8" Steel Wheel Assembly	22
FIGURE 10 - Mushroom Shoe Assembly.....	23
FIGURE 11 - Pneumatic Running Gear	24
FIGURE 12 - Pneumatic Wheel Kit, 5-Lug Hub.....	25
FIGURE 13 - Outer Tube & Yoke Assembly	26
FIGURE 14 - Universal Quick Hitch (UQH).....	28
FIGURE 15 - Swivel Plates & Plow Hitches	29

List of Tables

TABLE 1 - Henke Square Spring Torsion Tripedge Plow, Parts List.....	11
TABLE 2 - Manual Reversing Option, Parts List	13
TABLE 3 - Hydraulic Components, NOT Shown, Parts List	15
TABLE 4 - 3-Piece Chain Lift Assembly, Parts List	16
TABLE 5 - Optional Cable Lift Assembly, Parts List.....	18
TABLE 6 - Spring Loaded Running Gear, Parts List	20
TABLE 7 - Henke 8" Steel Wheel Assembly, Parts List.....	22
TABLE 8 - Mushroom Shoe Assembly, Parts List	23
TABLE 9 - Pneumatic Running Gear, Parts List.....	24
TABLE 10 - Pneumatic Wheel Kit, 5-Lug Hub, Parts List.....	25
TABLE 11 - Outer Tube & Yoke Assembly, Parts List.....	26
TABLE 12 - Universal Quick Hitch (UQH), Parts List	28
TABLE 13 - Cutting Edges	30
TABLE 14 - Cutting Edge Hardware.....	31
TABLE 15 - Henke Curb Guards	32

<<THIS PAGE IS INTENTIONALLY LEFT BLANK>>

SAFETY SECTION

Safety Section 1-1

SAFETY

GENERAL SAFETY INSTRUCTIONS AND PRACTICES

A careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this Implement. This equipment should only be operated by those persons who have read the manual, who are responsible and trained, and who know how to do so responsibly.



The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: "ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!" The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment.

Practice all usual and customary safe working precautions and above all--remember safety is up to YOU. Only YOU can prevent serious injury or death from unsafe practices.



Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.



Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.



Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

Important

Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

NOTE: Identifies points of particular interest for more efficient and convenient operation or repair. (SG-1)

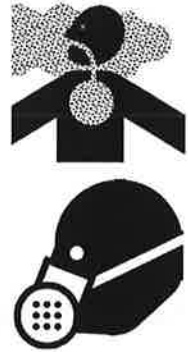
READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2)



SAFETY

WARNING

Repeated or substantial breathing of hazardous dusts, including crystalline silica, could cause fatal or serious respiratory disease including silicosis. Concrete, masonry, many types of rock, and various other materials contain silica sand. California lists respirable crystalline silica as a substance known to cause cancer. Operation of this equipment under certain conditions may generate airborne dust particles that could contain crystalline silica. In those conditions, personal protective equipment including an appropriate respirator must be used. If excessive dust is generated, a dust collection or suppression system should also be used during operation. (SG-41)



PELIGRO

Si no lee ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)

¡ LEA EL INSTRUCTIVO!



DANGER

Never operate the Snow Plow until you have read and completely understand this Manual, the Truck or Power units Operator's Manual, and each of the Safety Messages found in these Manuals and those affixed to the Snow Plow, Truck, or Power units and its components. Learn how to stop the power unit engine suddenly in an emergency. Never allow inexperienced or untrained personnel to operate the Truck or Power unit and Snow Plow without supervision. Make sure the operator has fully read and understood the manuals prior to operation. (SPNG-4)



In addition to the design and configuration of this Snow Plow, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the Truck or Power unit Manuals. Pay close attention to the Safety Signs affixed to the Snow Plow. (SNPG-5)

PARTS INFORMATION

HENKE Snow Plows use balanced and matched system components for plows, carriers, and other components. These parts are made and tested to HENKE specifications. Non-genuine or "will fit" parts do not consistently meet these specifications. The use of non-genuine or "will fit" parts may reduce Snow Plow performance, void HENKE warranties, and present a safety hazard. Use genuine HENKE parts for economy and safety. (SNPG-6)

SEE YOUR HENKE DEALER

WARNING

Always maintain the safety signs in good readable condition. If the safety signs are missing, damaged, or unreadable, obtain and install replacement safety signs immediately. (SG-5)

SAFETY



All Safety Shields, Guards and other Protective Safety devices should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. **NEVER REMOVE PROTECTIVE SHIELDS AND GUARDS! NEVER MODIFY OR CUT PROTECTIVE SHIELDS OR GUARDS!** When shields or guards are removed to access areas for maintenance, they must be replaced and be in good condition before operating. Missing, broken, or worn shields, guards, and other protective devices must be replaced at once and prior to operation to reduce the possibility of injury. (SNPS-02)



The Snow Plow power unit should be equipped with a fire extinguisher, rated for all fires, in an accessible and visible area. The fire extinguisher should be inspected routinely by a certified inspector for operational use and replaced as needed. Never obstruct access to the fire extinguisher. (SNPS-6)

OPERATOR SAFETY INSTRUCTIONS AND PRACTICES



NEVER use drugs or alcohol immediately before or while driving or operating the Snow Plow. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the Equipment safely. Before operating the Equipment, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. **NEVER** knowingly allow anyone to operate this Equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SNPD-3)



Always wear OSHA approved Personal Protective Equipment (PPE) while operating, servicing, repairing, and/or cleaning the Equipment. PPE is designed to provide bodily protection during such activities.

Personal Protective Equipment includes:

- Protective Eye Wear
- Steel Toed Safety Footwear
- Gloves
- Hearing Protection
- Close Fitted Clothing
- Hard Hat-When working around a raised hopper.
- Respirator-Depending on conditions and material being swept or cleaned.

Specialized protective equipment may be required if dangerous or hazardous material is being moved by the plow. (SNPD-4)

SAFETY

CAUTION

Prolonged operation of the Snow Plow may cause operator boredom and/or fatigue affecting the safe operation of the Snow Plow and Truck or Power unit. It is recommended that the operator take scheduled work breaks to help prevent these potentially impaired operating conditions. If possible, completely shut down the Equipment, exit the cab and move around stretching your arms and legs. Never operate the Equipment in a fatigued or bored mental state that impairs proper and safe Equipment operation. (SNPD-5)

CAUTION

PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS! Equipment operation can often be noisy enough to cause permanent hearing loss. We recommend that you always wear hearing protection if the noise in the Operator's position exceeds 80db. Noise over 85db over an extended period of time will cause severe hearing loss. Noise over 90db adjacent to the Operator over an extended period of time will cause permanent or total hearing loss. **Note:** *Hearing loss from loud noise [from sweepers, chain saws, radios, and other such sources close to the ear] is cumulative over a lifetime without hope of natural recovery.* (SNPD-6)



CAUTION

Prolonged operation of the Equipment in cold weather may cause operator hypothermia affecting the safe operation of the Snow Plow and Truck or Power unit. It is recommended that the operator wear appropriate clothing take scheduled work breaks to help prevent these potentially impaired operating conditions. If possible, completely shut down the Equipment, exit the cab and warm the body in a properly heated area. Never operate the Equipment in a fatigued or impaired mental state that effects the proper and safe Equipment operation. (SNPD-8)

WARNING

Use both hands for support when getting on and off the truck or power unit. Use handles and steps on the equipment for support when boarding. Never use the Truck or Snow Plow control levers for support when boarding the equipment. (SNPO-01)

WARNING

Use available truck or power unit handles and steps to exit the operator's station. Make sure you have solid footing before stepping down. Be careful of your step and use extra caution when mud, ice, snow, or other matter has accumulated on the steps or handrails. Never rush to exit or jump off the truck or power unit. (SNPO-02)

DANGER

Do not attempt to mount the Truck or Power Unit while the machine is moving. Never attempt to mount a runaway Snow Plow. Serious injury or death may occur from being run over by a moving Truck, Power Unit, or Snow Plow. (SNPO-03)

DANGER

BEFORE leaving the operator's seat, always engage the parking brake and/or set the Truck's or Power Unit's transmission in the park position, stop the engine, remove the key, and wait for all moving parts to stop. Never dismount a Truck or Power Unit that is moving or while the engines are running. Operate the equipment controls from the Operator's seat only. (SNPO-04)

SAFETY

SAFETY

▲ WARNING

Always wear a seat belt while driving the equipment during operation and transport. Serious injury or even death could result from falling from the operator's station or from being involved in a collision. (SNPO-05)

▲ DANGER

Start the engines only when seated and belted in the operator's seat. Operate the equipment controls only while properly seated with the seat belt secured around you. Inadvertent movement of the power unit or attachment components may cause serious injury or death to the operator and passersby. Read the truck or Power Unit operator's manuals for proper starting instructions. (SNPO-06)

▲ DANGER

Do not operate, or perform maintenance to, the Equipment while wearing loose fitting clothing. Entanglement of loose clothing with the rotating elements can result in serious injury or death. Stay clear of all rotating elements at all times. (SNPD-7)

▲ DANGER

Operate only in conditions where you have clear visibility of the area in daylight or with adequate artificial lighting. Never operate in darkness or foggy conditions where you cannot clearly see at least 50 feet in front and to the sides of the equipment. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, oversized debris and foreign objects. If you are unable to see these types of items, discontinue operation until visibility improves. (SNPO-8)

▲ WARNING

When transporting the Snow Plow between locations, follow all local traffic laws and regulations. (SNPO-10)

▲ WARNING

Operate at a speed that allows you to safely operate and control the Truck and Snow Plow. Safe plowing speed depends on street condition and the type and amount of debris being moved. Slow down for corners, curbs, parked cars, protruding signs and other obstacles. Use slow traveling speeds when operating on or near steep slopes, ditches, drop-offs, overhead obstructions, power lines, or when debris and foreign objects are to be avoided. (SNPO-13)

▲ WARNING

Do not operate the Equipment if excessive vibration or noise exists. Shut down the equipment and the Truck or Power Unit engine. Inspect the Equipment to determine the source of the vibration or noise. If parts are loose, damaged, or missing, replace them immediately. Do not operate the Equipment until all necessary repairs have been performed. To reduce the possibility of property damage, serious injury, or even death, never operate the Equipment with missing or damaged components. (SNPO-16)

▲ WARNING

Never attempt to plow debris that is too large for the Snow Plow (oversized objects such as broken limbs and discarded tires). Such objects may damage the snow plow components and cause serious mechanical damage to the equipment. If possible, carefully place such objects out of the Snow Plow and traffic path until properly removed by another means. (SNPO-17)

SAFETY

WARNING

Unplowed snow, piled ice and debris, and snow drifts left behind the equipment might pose a driving hazard to vehicle traffic colliding with the debris or losing traction on the material. It is recommended to post warning signs alerting driver's of the equipment operation presence and the need to reduce vehicle speed. If such hazards are left behind following the Snow Plows passage, the area should be plowed a second time and any remaining hazards removed by an alternative method. (SNPO-19)

DANGER

Do not allow the Snow Plow to come in contact with potentially dangerous and/or hazardous material. Such hazards may include, but are not exclusively limited to, the following:

- Fire Hazards- Fuel spills, burning material,
- Chemical Hazards- Chemical spills, discarded chemical containers, batteries,
- Biological Hazards- Decaying Carcasses, BioMedical Waste,
- Radioactive Hazards-Radioactive Waste, Radioactive Material,
- Carcinogenic Materials-Asbestos,
- Corrosive Materials-Batteries, Acids and Bases.

In most areas, these types of material require special handling requirements for safe and proper disposal and should not be plowed by the Snow Plow, nor can they be disposed of in a general landfill site like most swept waste. Contact the appropriate authority for the collection and disposal requirements of such dangerous and/or hazardous material. (SNPO-25)

DANGER

Always wear required OSHA approved Personal Protective Equipment (PPE) when coming in contact with and removing potentially dangerous and hazardous material that has collected on the Snow Plow equipment or which is obstructing one or more components. Pay close attention to dangerous and hazardous material including, but not exclusively limited to, chemicals, decaying carcasses and sharp objects. (SNPO-26)

WARNING

Verbal communication near a Truck or Power Unit and Snow Plow is difficult and dangerous. Operating instructions and directions should be made prior to starting the equipment. Unclear and misunderstood communication may lead to operator and bystander injury or death and equipment damage. If communication by the operator is necessary, completely shutdown and exit the equipment. Never allow anyone to approach the equipment while in operation. (SNPO-28)

DANGER

Never allow children to play on, under, or around the Truck or Power Unit nor allow children to operate equipment controls. Children can slip or fall off the equipment and be injured or killed. Children can cause the equipment components to shift or fall crushing themselves or others. (SNPO-29)

WARNING

Allow passengers only in situations where their presence is involved in the operation (operator training, supervision, maintenance inspection). Never carry passengers whose presence distracts from the safe operation or transport of the equipment. Passengers must be seated securely and belted in the cab's passenger seat. Never allow any person to ride on any other location of the Truck, Power Unit or Snow Plow during operation or transport. (SNPO-30)

SAFETY

WARNING

Extreme caution should be used by the operator when operating near passersby. Stop snow plowing if a passerby comes within 25 feet of the plow to prevent possible passerby injury or death from being struck by the equipment or from a thrown object. (SNPO-31)

CAUTION

Under certain conditions, the Snow Plow is capable of propelling objects up to 75 feet. Be extremely careful when plowing at higher speeds and hitting large dense objects, such as rocks, chunks of frozen ice, metal objects, broken glass, or other solid objects that might become propelled and cause bodily injury to passersby or damage to property such as windows and vehicles. (SNPO-32)

WARNING

Make sure that no bystander, animal or obstruction such as a vehicle, building, or street sign are within the width of the Snow Plow. The design of the Snow Plow may impair the operator vision when operating. Use extreme caution to ensure that the Snow Plow is not driven into the path of pedestrian or vehicle traffic. Serious injury or death and property damage could result from running into, being crushed by, or run over by a Snow Plow. (SNPO-33)

DANGER

Make sure no bystanders or animals are within 25 feet of the equipment basket when dumping contents from or cleaning the Snow Basket. Bucket contents, which may exceed several thousand pounds, could fall and crush a bystander or an animal resulting in possible injury or death. (SNPO-34)

DANGER

Use extreme caution when operating the Equipment in traffic. To alert motorists of the Equipment's presence, use all equipped warning signals to alert motorists and pedestrians of the equipment's presence and relatively slow speed. Serious injury or death and property damage may occur if a vehicle collides with this Equipment. (SNPS-3)

WARNING

Before starting a snow plowing operation, make sure all the warning signal lights are connected, visible and working. Routinely inspect the equipment's headlights, brake lights, backup lights, and turn signal lights for operational condition. Immediately repair non-functioning lighting. Always follow all local traffic regulations while operating the Snow Plow. (SNPS-4)

WARNING

Always turn on all safety lights and flashers when you operate the Snow Plow. (SNPS-5)

DANGER

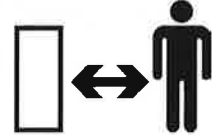
Be particularly careful in transport. The Implement has raised and moved the center of gravity to the front of the Power Unit increasing the possibility of overturn and tipping forward. Turn curves or go up slopes only at low speed and using a gradual turning angle. Go up slopes with the Implement located uphill. Slow down on rough or uneven surfaces. (SPU-2)

SAFETY

CONNECTING OR DISCONNECTING IMPLEMENT SAFETY INSTRUCTIONS AND PRACTICES

⚠ WARNING

Do not stand or allow bystander or coworkers between the attachment and the truck or power unit while installing or disconnecting the attachment. Keep hands and body clear of the attachment and the attachment mounts. Serious injury or death can result from a person being crushed between the attachment and truck or power unit. (SNPC-01)



⚠ WARNING

Reset the tripped snow plow edge by raising the snow plow off the ground. DO NOT attempt to reset the trip edge by hand. The trip edge is spring loaded and sudden and unexpected movement can occur resulting in serious injuries. Keep hands and feet away from the trip edge. If the trip edge does not reset, stop plowing and have the snow plow repaired before resuming snow plowing. (SNPO-12)

⚠ WARNING

Make sure the implement is properly attached to the Power Unit and the retaining pins securely lock the Implement into position. Improper mounting of the Implement onto the Power Unit can result in the Implement falling causing serious injury. (SNPC-02)

⚠ WARNING

The operator of the equipment must be trained in the operation and safe use of this machine. The operator must read and completely understand the operator's manuals of the Snow Plow, Truck or Power unit manufacturers. New operators should be trained in an open area clear of obstructions before operating on public roadways. If operation of the entire Snow Plow unit (Truck or Power unit) is not completely understood, consult your authorized sales representative for a detailed explanation. Never allow an untrained or unqualified driver to operate the Snow Plow. (SNPD-1)

⚠ CAUTION

The Snow Plow driver must meet the requirements and possess a Motor Vehicle License as determined by the state in which the Snow Plow is operated if used on public roadways. Contact your local State Department of Public Safety office for special licensing requirements to operate the Snow Plow in your area. (SNPD-2)

SAFETY

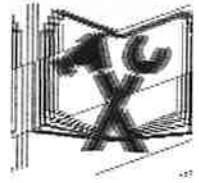
MAINTENANCE AND SERVICE SAFETY INSTRUCTIONS AND PRACTICES

▲WARNING

Perform service, repairs and lubrication according to the maintenance section. Ensure the unit is properly lubricated as specified in the lubrication schedule and all bolts and nuts are properly torqued. Failure to properly service, repair and maintain this Implement in good operating condition could cause component failure and possible serious injury or even death. (SG-35)

▲WARNING

Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins are properly secured. Serious injury may occur from not maintaining this equipment in good working order. (SNPM-01)



▲WARNING

Inspect the entire Snow Plow before each use. Accidents may occur or damage to the equipment may result if the Snow Plow is not maintained in good mechanical working order.

- Check for loose bolts, worn or broken parts, pinched hydraulic hoses, and leaky or loose fittings.
- Make sure all pins are secure and safety pin equipped.
- Make sure replacement parts are the correct size and properly installed.
- Make sure all fluid levels are full and replenish as necessary.
- Make sure fuel, oil, and coolant caps are replaced and tightened.
- Check tire condition for tread wear and tire pressure at the rated PSI.
- Make sure that all safety shields and guards are attached and in good condition.
- Make sure all scheduled maintenance is up to date. (SNPM-02)

▲WARNING

Do not modify or alter this Snow Plow. Do not permit anyone to modify or alter this equipment, any of its components or any Snow Plow function. Modification can result in equipment failure and cause serious injuries to the operator, coworkers, or bystanders. (SNPM-03)

▲WARNING

Use extreme care when climbing onto the equipment to perform repairs, maintenance, and cleaning. Use proper stands and ladders to access areas that cannot be reached from ground level. Slipping and falling off the equipment can cause serious injury or death. (SNPM-04)

▲WARNING

Never attempt to repair, lubricate, adjust, clean, remove obstructions or perform any other type of service to any component while the Snow Plow is in motion or while the engine is running. Completely shut down the engine and wait for all motion to come to a complete stop before servicing the Snow Plow. (SNPM-05)

SAFETY

DANGER

Never leave the Snow Plow unattended while the plow is in the raised position. Accidental operation of the lifting lever or a hydraulic failure may cause a sudden drop of the unit which could result in injury or death by crushing. If the plow must be raised for inspection or service securely block up and support the Plow to prevent it falling. (SNPM-06)

DANGER

Never crawl under the Snow Plow or any raised component unless it is properly blocked up and support to prevent it from falling. Accidental operation of a lifting lever or hydraulic failure may cause a sudden drop of the unit with injury or death by crushing. (SNPM-07)

WARNING

Use proper protective equipment including gloves, safety eye wear, arm protection when handling plow blades and components during replacement, adjustment, and maintenance. Plow edges and components can become sharp and have burrs that could inflict puncture and cuts to the hands, arms, and/or eyes if proper protective equipment is not worn.

(SNPM-08)

WARNING

Replace bent, cracked, or broken plow blade with a new blade. Never attempt to straighten or weld on plow blades because this will likely crack or otherwise damage the blade with subsequent failure and possible serious injury from broken blade being ejected from plow. (SNPM-10)

DANGER

Escaping pressurized hydraulic oil generated by hydraulic pumps has the potential to inflict serious injury and possible death. Never attempt to repair a pump or hose or tighten a connection while the system is pressurized. Always shut down the engine and relieve hydraulic oil pressure before performing any repairs to the hydraulic system. (SNPM-11)

WARNING

Hydraulic pressure must be relieved from the hydraulic circuit prior to doing any maintenance or repair work and when the Snow Plow is parked at the end of the day. Place the Snow Plow(s) on the ground or securely blocked up. Turn off the Truck engine then engage the hydraulic remote cylinders several times to relieve hydraulic pressure prior to performing any maintenance or repair work. (SNPM-12)

WARNING

Never remove debris from or unclog jams in the plow or lifting components until the engine have been completely shutdown and all components have come to a complete stop and are lowered to ground level and hydraulic pressure relieved. Always wear PPE when removing collected material and debris from the equipment. Serious injury or death may occur if any of these precautions are not followed when removing plugged or entangled debris. (SNPM-15)

WARNING

Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. (SNPM-20)

SAFETY

▲ DANGER

Do not operate this equipment with hydraulic oil or fuel leaking. Oil and fuel are expensive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use Cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SNPM-21)



▲ WARNING

Always read carefully and fully comply with the manufacturers instructions when handling fuels, oils, solvents, cleansers, and any other chemical agent. (SNPM-22)

▲ WARNING

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. Wash Hands after handling. (SNPM-23)

▲ WARNING

Avoid contact with hot surfaces on the bottom of the skid shoes or plow cutting edges. Use gloves and eye protection when servicing hot components. Contact with a hot surface can cause serious injury from burns or scalding. (SNPM-24)

▲ WARNING

Remove the negative battery cable from the battery before performing any maintenance on the electrical system to prevent an accidental circuit shorting and sparks. Sparks can result in wiring damaged, fire or personal injury. (SNPM-25)

▲ WARNING

Before conducting maintenance on the Snow Plow stop the truck or Power Unit, place the transmission in the park position and set the parking brake. Turn the engine off and remove the key to prevent inadvertent or accidental starting of the engine. Unexpected engine start up or vehicle movement can result in serious bodily injuries or death. (SNPM-27)

SAFETY

Transporting Safety Instructions and Practices



WARNING Transport the Truck, Power Unit, and Snow Plow only at safe speeds. Serious accidents and injuries can result from driving this equipment at unsafe speeds. Become familiar with the driving characteristics of the equipment and how it handles before operating or transporting on streets and highways. Make sure the Truck's or Power Unit's steering, brakes, and wheels are in good condition and operate properly)

Before transporting the Equipment determine the safe transport speeds for you and the machine. Make sure you abide by the following rules:

- Test the Truck or power unit and Snow Plow at a slow speed and increase the speed slowly. Apply the brakes smoothly to determine the stopping characteristics of the Truck equipped with the Snow Plow. As you increase the speed of the Truck, the stopping distance increases. Determine the maximum safe transport speed for you and the equipment. When driving down a hill or on wet or icy roads, the braking distance increases: use extreme care and reduce your speed. Do not operate the equipment with weak or faulty brakes.
- Obey all traffic laws and regulations. Never exceed the posted speed limit.
- The Snow Plow has moved the center of gravity of the equipment forward. Use extreme caution when transporting at highway speeds. Slow down for sharp corners or on slopes to avoid loss of steering control.
- Only transport the equipment at the speeds determined as safe and which allow for proper control of the machine while driving and stopping during an emergency.
- When operating in traffic, use the Truck's or Power Units directional indicator or signal lights to indicate your movement. Always use the flashing warning lights and other equipped warning features to alert motorists of your presence and slow moving speed when operating in traffic. **Be Aware of Traffic Around You and Watch Out for the Other Guy.** (SNPO-09)

SAFETY

SAFETY

Federal Laws and Regulations

This section is intended to explain in broad terms the concept and effect of federal laws and regulations concerning employer and employee equipment operators. This section is not intended as a legal interpretation of the law and should not be considered as such.

Employer-Employee Operator Regulations

U.S. Public Law 91-596 (The Williams-Steiger Occupational and Health Act of 1970) OSHA

This Act Seeks:

"...to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources..."

DUTIES

Sec. 5 (a) Each employer-

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA Regulations

OSHA regulations state in part: "At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved."

Employer Responsibilities:

To ensure employee safety during plow and truck or other power unit operation, it is the employer's responsibility to:

1. Train the employee in the proper and safe operation of the plow and truck or other power unit.
2. Require that the employee read and fully understand the plow and truck or other power unit Operator's manual.
3. Permit only qualified and properly trained employees to operate the plow and truck or other power unit.
4. Maintain the plow and truck or other power unit in a safe operational condition and maintain all shields and guards on the equipment.
5. Ensure the truck or other power unit is equipped with a functional ROPS and seat belt and require that the employee operator securely fasten the safety belt and operate with the ROPS in the raised position at all times.
6. Forbid the employee operator to carry additional riders on the Tractor or Implement.
7. Provide the required tools to maintain the plow and truck or other power unit in a good safe working condition and provide the necessary support devices to secure the equipment safely while performing repairs and service.
8. Require that the employee operator stop operating equipment if bystanders or passersby come within 25 feet.

Child Labor Under 16 Years of Age

Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102.)

DECALS

Square Spring Trip Edge

Use the following decals from sheet 7332006-020.

Henke Part No.	Qty.	Description
7331003	1	Use genuine Henke replacement parts
7331004	1	Secure body with blocks
7331005	1	Stop Engine Stay clear of moving parts
7331007	1	Read and understand operator's manual If you cannot read English get assistance
7331011	1	Keep Push Frame parallel to ground
7331012	1	Raise plow before backing

(NOTE: Some decals on sheet 7332006-020 may not be needed on this product. Discard decals not needed.)

Other Attachments and Decals

7330014	1	Henke Logo Decal
7331006	2	Do not use hands to check for oil leaks High Pressure oil leak-injection
7331010	2-3	Keep Clear, Pinch Point
7330012	1	Serial Number Tag
7330023	4	Tack - Serial Tag
7300047	1	Product Manual Canister
7300048	1	Plug for Product Manual Canister
7020391	3	Stud, 1/2-20 X 5/8 Non- Flange
7040002	3	Flat Washer, 1/4 USS
7030044	3	Nylock Nut, 1/4-20

Instructions:

Follow these instructions to position the above items to your Henke product for safety and professional appearance. Apply on clean surfaces only. They should be properly applied and kept in good condition. If a decal is worn out, torn, or otherwise defaced, call us for an immediate replacement at 1-913-682-9000, or 1-888-682-9010.

DECALS

1. Position 7331007, 7331005, and 7331004 at the TOP LEFT of the Moldboard as shown.
2. Position 7331011, 7331012, and 7331003 below the previous decals as shown.
3. Position 7330012, Henke Serial Tag on the Left Wing as shown.



Center 7330012 on bottom angle.



DECALS

4. Position 7331010 (Qty. 2) On bottom angle, rear of outboard two springs.



5. Position 7330014, Henke Logo at visible height, centered between ribs on moldboard as shown.



DECALS

6. Position 7331006 decals (Qty. 2) on each hydraulic cylinder as shown.



7. Position 7300047 manual canister on the pushframe between chain ear and stability brace pin.

REVERSIBLE PLOW SET UP AND OPERATION

ALWAYS OPERATE PLOW WITH PUSHFRAME PARALLEL TO THE GROUND.

This will help provide proper moldboard layback angle and proper plowing position, which will allow proper operation of the plow trip mechanism, and optimal overall plow performance.

Operation in a significant out-of-level position can damage the plow swivel stops, trip mechanism, and structural members.

For new truck hitch installations, follow the mounting instructions to achieve the proper mount height, and resulting plow attaching height. (plow pin attaching height is approx. 14" for most plows, with the plow cutting edge resting on the ground.)

For pinning or coupling plows to existing hitches, select the proper mounting hole height for parallel operation, and install the hitch pin to secure the plow to the hitch. For some plows, the swivel plate can be flipped if additional up or down attaching distance is needed. If the above adjusting options do not provide reasonably parallel operation for your plow, mounting ears may need to be removed, repositioned, and reattached.

Attach plow lifting chain to the truck hitch lift arm, by first moving the lift arm parallel to the ground. Attach chain from plow frame to the lift arm by inserting the 7/16" chain link in the top center slot of the arm end plate. Raise plow and check for proper 10" ground clearance at the cutting edge. Adjust chain if necessary to accomplish 10" clearance. (For Hustling hitch designs, no lift chain is used, and ground clearance of 8-10" is acceptable)

Runner shoe adjustment (if equipped). Raise plow, retract running gear. Lower plow so the cutting edge is touching the ground. Lower running gear until full contact with the ground is made. Plow performs best when the weight of the plow is evenly distributed between the cutting edge and the runner shoes.

Follow your organization's procedure for walk around safety and vehicle checks before operating. Include the snow plow in this procedure to check for loose, missing, or excessively worn components. Check for cracks or breaks in the components and structure. Check for proper markers, reflectors and safety decals, if any. Replace any items as needed before operating.

Drive prudently for the road conditions. In good plowing conditions, reversible plows can generally be operated safely and with good results up to 30 mph; expressway and one way plows up to 40 mph.

IN SEASON MAINTENANCE

Snow removal equipment must be cared for and maintained regularly. Daily or pre-route inspection and maintenance are necessary. Failure to do so may affect efficiency and safety.

A visual inspection must be carried out after every 8 hours of operation. Look for damaged components, bends, cracked welds or hydraulic leaks. **REPAIR IMMEDIATELY!** It is recommended to re-torque all bolts after the first 8 hours of use and to regularly check for loosened or missing fasteners. Replace any damaged or missing fasteners immediately.

Because of the environment in which snow equipment is expected to operate, hydraulic lines, fasteners, wearable or replaceable items and warning decals may become damaged by snow, ice and road debris. These items must be inspected daily and replaced if necessary to avoid equipment damage or personal injury.

Lubrication of moving parts is of the utmost importance. Exposure to snow, ice, salt and road debris will wash away lubrication quickly and it may be necessary to inspect and reapply lubrication more than once a day.

END OF SEASON SNOW PLOW MAINTENANCE

GROUND ENGAGING COMPONENTS

- **CUTTING EDGES & GUARDS:** Replace any broken cutting edges, unevenly or excessively worn cutting edges, and broken or worn wear guards.
- **RUNNING GEAR:** Replace broken, worn, or missing running gear shoes, and any damaged adjuster leg components. Grease internal threads and sliding members (it's best to disassemble and grease directly; zerks aren't as effective at greasing these areas).
- **HARDWARE:** Replace missing or broken bolts. Proper torque is important! Use grade 8 plow bolts for steel cutting edges.

HYDRAULICS

- **HOSES:** Plug or cap any QC fittings or any open hose ends. Inspect hoses for any leaks or potential leaks. Secure hoses with hose clamps.
- **CYLINDERS:** Check for leaks, and any chrome rod dents or scratches. Apply a light coat of oil or grease on exposed rod surfaces.

FRAME AND MOLDBOARD

- **JOINTS:** Check pins, bushings, and pivot bolts for wear. Make sure all keepers are in place. Make sure shear bolts and pins are same as original equipment (usually grade 2). Some drivers don't like replacing shear pins and will install grade 8 replacements to avoid replacing during a storm. These items are *designed to shear* to protect the driver and the equipment. **CHECK WELDMENTS FOR CRACKS.**

REPLACE WORN OR BROKEN PARTS FOUND BY ABOVE INSPECTIONS

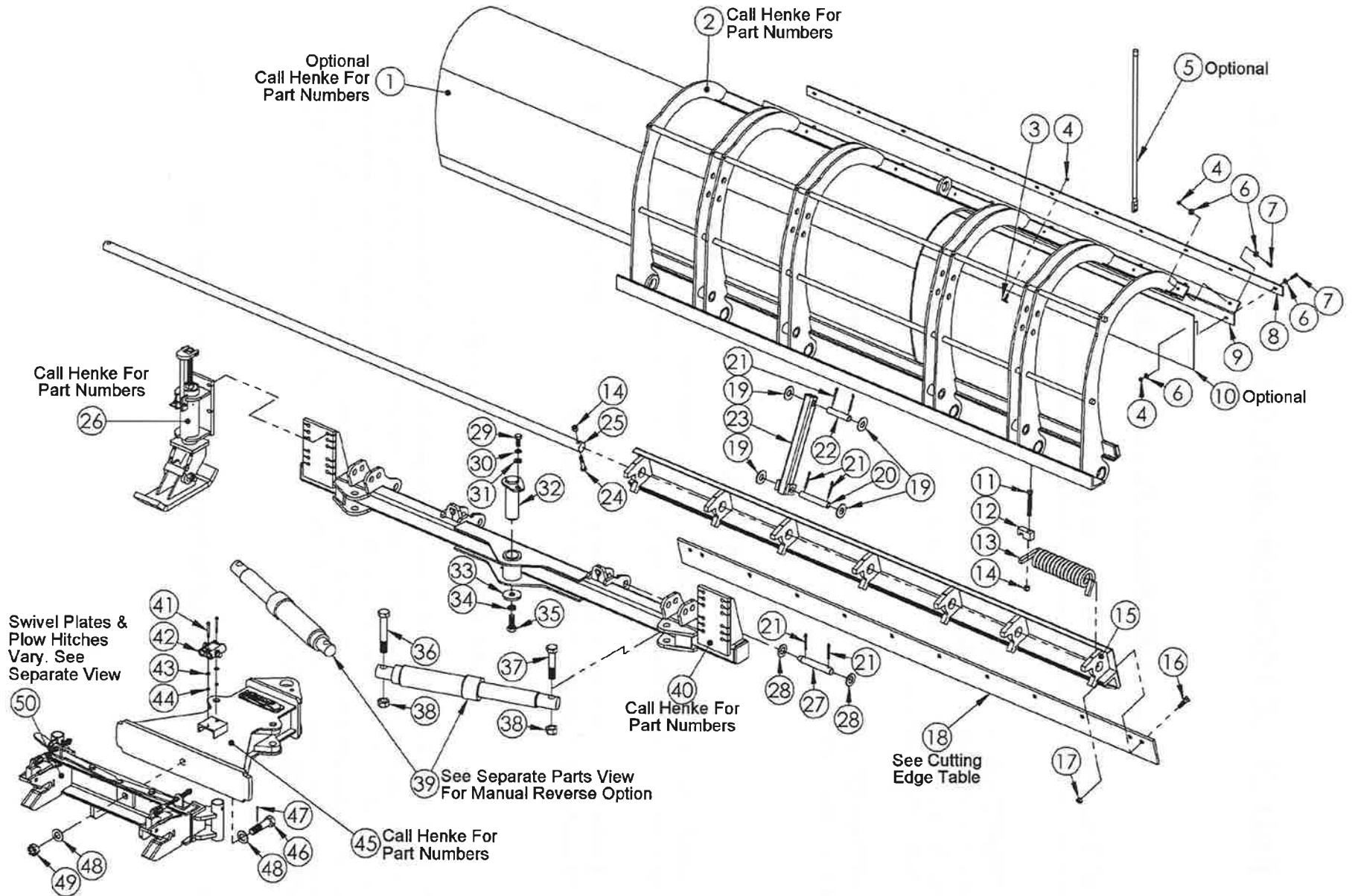


FIGURE 2 – Henke Square Spring Torsion Tripedge Plow

**TABLE 1 – Henke Square Spring Torsion Tripedge Plow,
Parts List**

Item No.	Qty.	Part No.	Description
1	1	Call Henke For Part Number	Poly Sheet
2	1	Call Henke For Part Number	Moldboard Assembly
3	Varies	7020232	Elevator Bolt, 3/8-16 x 1.50 (Used with Poly Moldboard Option)
4	Varies	7030006	Nylock Nut, 3/8-16 (Used with Poly & Rubber Shield Options)
5	1 Pair	7300030	Rod Markers, .75 x 36", Orange (Optional)
6	Varies	7040004	Flat Washer, 3/8 Hardened, USS (Used with Rubber Shield Option)
7	Varies	7020031	Hex Capscrew, 3/8-16 x 1.5 GR.5 (Used with Rubber Shield Option)
8	1 2	3800-0064 3800-0168 3800-0077 Call Henke For Part Number	Rubber Shield Retaining Strip 120"- 10' Rubber Shield Retaining Strip 66"- 11' Rubber Shield Retaining Strip 72" - 12' Rubber Shield Retaining Strip - Other (Used with Rubber Shield Option)
9	1 2 2	3800-0177 3800-0170 3800-0098 Call Henke For Part Number	Bent Strip, Rubber Shield 120"- 10' Bent Strip, Rubber Shield 66"- 11' Bent Strip, Rubber Shield 72" - 12' Bent Strip, Rubber Shield - Other (Used with Rubber Shield Option)
10	Sold by the Foot	7160009	Rubber Shield 12" Width (Optional)
11	5	7020303	Hex Capscrew, 5/8-11 X 5 GR.8, FT
12	5	3800-0032	Spring Retainer
13	5	7070057	Torsion Spring, Square Stock
14	7	7030095	Nylock Nut, 5/8-11 GR.8
15	1	389-0129 389-0132 389-0130 389-0137	Trip Angle Weldment, 10' Trip Angle Weldment, 11' Trip Angle Weldment, 12' Trip Angle Weldment, 14'
16	Varies	Varies	Plow Bolt, 5/8-11 x 2.5 GR.8 (See Cutting Edge Hardware Table)
17	Varies	7030084	Toplock Nut, 5/8-11 GR.C (See Cutting Edge Hardware Table)
18	Varies	See Cutting Edge Table	Cutting Edge
19	8	7040050	Flat Washer, 1-1/8 USS

**TABLE 1 – Henke SS Torsion Tripedge Plow, Parts List
(CONTINUED)**

Item No.	Qty.	Part No.	Description
20	2	3800-0036	Pin, Stabilizer Bar, Lower
21	16	7050094	Cotter Pin, 5/16 X 3
22	2	3800-0035	Pin, Stabilizer Bar, Upper
23	2	389-0006	Stabilizer Bar Assembly
24	2	7020162	Hex Capscrew, 5/8-11 x 3.0 GR.8
25	1	3800-0065	Trip Shaft, 10'
		3800-0018	Trip Shaft, 11'
		3800-0070	Trip Shaft, 12'
		3800-0088	Trip Shaft, 14'
26	2	See Separate Parts Views	Running Gear
27	4	3800-0034	Pin, 1.25 DIA X 8.25, 2 Hole
28	8	7040051	Flat Washer, 1 1/4, SAE
29	1	7020305	Hex Capscrew, 3/4-10 X 1.75 GR. 8
30	1	7040021	Lock Washer, 3/4 SAE
31	1	7040007	Flat Washer, 3/4 Hardened, SAE
32	1	389-0007	Pin Assembly
33	1	3800-0040	Large Washer, 1"
34	1	7040022	Lock Washer, 1"
35	1	7020095	Hex Capscrew, 1-8 X 2.5 GR. 8
36	2	7020304	Hex Capscrew, 1 1/4-7 X 8 GR. 5
37	2	7020108	Hex Capscrew, 1 1/4-7 x 6 GR.5
38	4	7030099	Nylock Nut, 1 1/4-7
39	2	7080510	Hydraulic Cylinder, SSTE (See Separate Parts View for Manual Reverse Option)
40	1	Call Henke For Part Number	Pushframe Assembly
41	2	7020372	Hex Capscrew, 5/16-18 X3 G2/A307 Z
42	1	7080449	Cushion Relief Valve, 1500 psi
43	2	7040003	Flat Washer, 5/16 USS
44	2	7030086	Nylock Nut, 5/16-18
45	1	Call Henke For Part Number	A-Frame Assembly
46	1	1300-0372	Swivel bolt
47	1	7050043	Cotter Pin, 3/16 x 2.5
48	2	7040014	Flat Washer, 1 1/4 Hardened, SAE
49	1	7030023	Slotted Nut, 1 1/4-7
50	1	See Separate Parts Views	Plow Portion Hitch

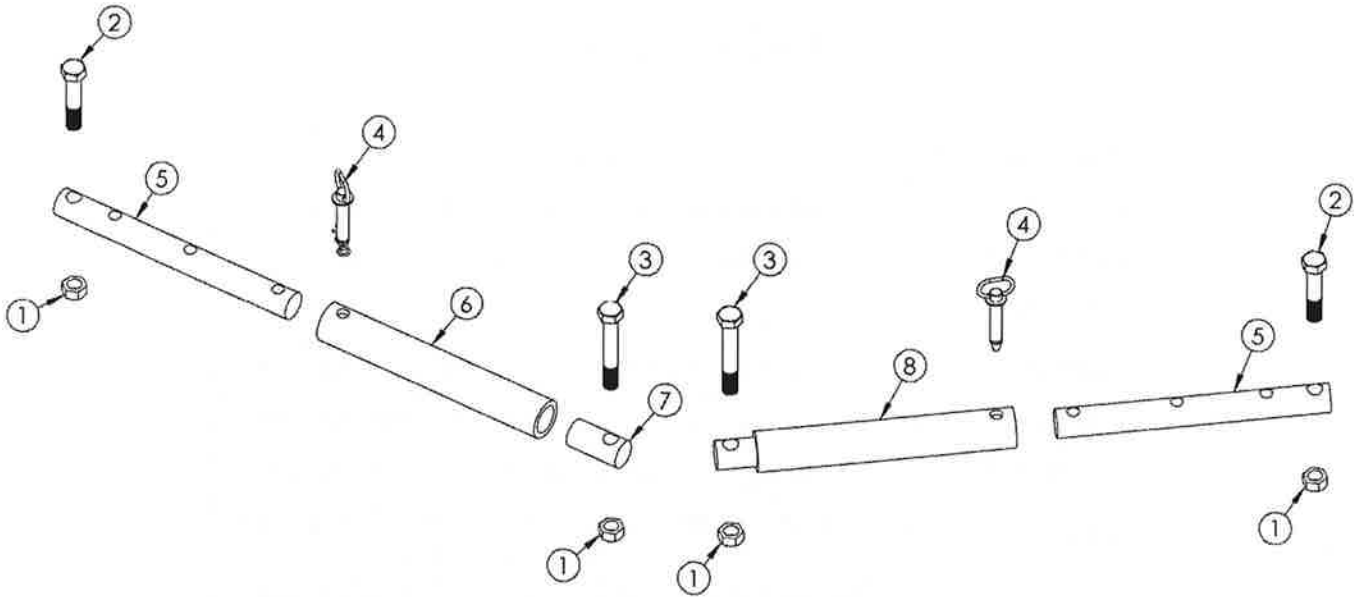


FIGURE 3 –Manual Reversing Option

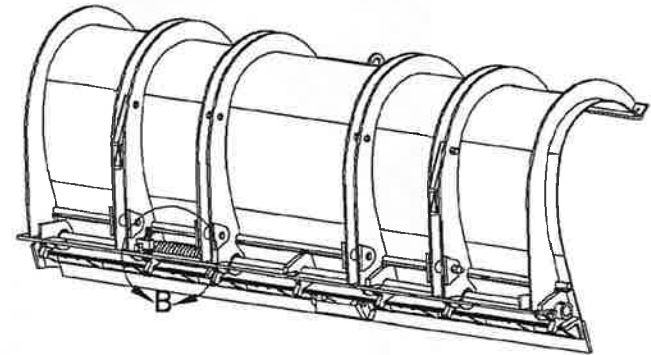
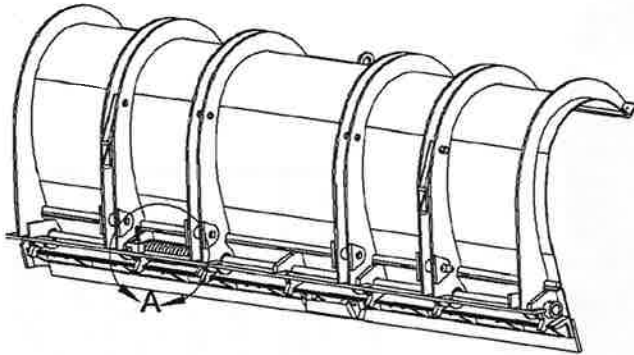
TABLE 2 – Manual Reversing Option, Parts List

Item No.	Qty.	Part No.	Description
1	4	7030099	Nylock Nut, 1 1/4-7
2	2	7020108	Hex Capscrew, 1 1/4-7 x 6 GR. 5
3	2	7020304	Hex Capscrew, 1 1/4-7 X 8 GR. 5
4	1	7050091	Hitch Pin, 1.0 x 4.75 (includes 7050081 Hair Pin)
5	2	3800-0253	Manual Reversing Rod
6	1	3800-0251	Manual Reversing Tube
7	1	3800-0252	Manual Reversing End
8	1	389-0136	Manual Reverse Base Assembly

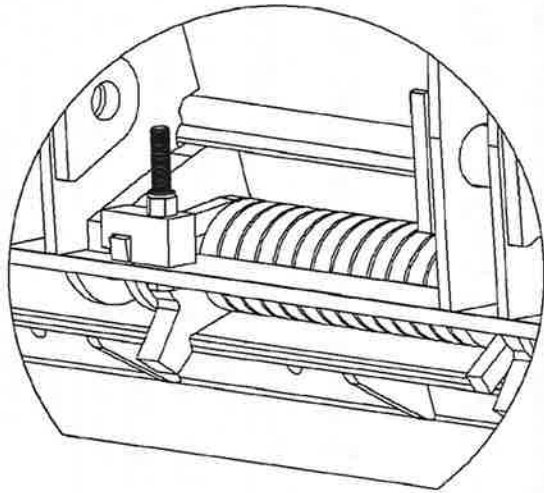
**TABLE 3 – Hydraulic Components
(NOT Shown)**

Part No.	Qty.	Description
7110577 *	2	Hose Assy., 1/2 2-wire x 22", -8 JIC F e/e
7110579 *	2	Hose Assy., 1/2 2-wire x 48", -8 JIC F e/e
7090014 *	2	Straight Adapter, -8 JIC M to -10 ORB M
7090327 *	2	Straight Adapter, -8 JIC M to -8 NPT M
7090235 *	2	Elbow, 90, -8 JIC M to -8 ORB Adj. M
7090290 *	2	Straight Adapter, -8 JIC M to -8 ORB M
7090543	2	Quick Coupler, ISO 7241-A, 1/2" Body Size, 08 ORB, Poppet, Male
7090544	2	Quick Coupler, ISO 7241-A, 1/2" Body Size, 08 ORB, Poppet, Female
7090405	1	Quick Coupler Dust Plug, for 7090544
7090406	1	Quick Coupler Dust Cap, for 7090543

** NOTE: INCLUDED IN 7080426 STANDARD HYDRAULIC KIT*

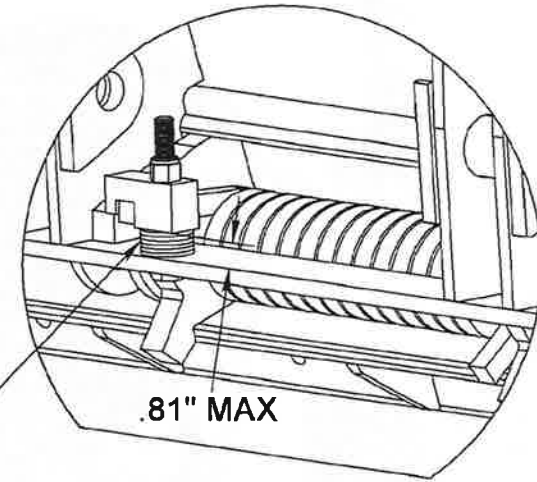


BACK LEG OF LOWER ANGLE
AND OTHER ITEMS ARE
REMOVED FOR CLARITY.



MAXIMUM SPRING FORCE
No washers under spring retainer.
Add optional 6th spring kit to increase
spring force by an additional 20%.

DETAIL A



7040043 Washer -
Add (6) maximum
to modify spring force.

MINIMUM SPRING FORCE
(6) 7040043 5/8 USS washers
under spring retainer.

DETAIL B

NOTES:

1. Spring force can be changed by a total of 30% in six 5% increments by installing a different number of 5/8 USS flat washers under each spring retainer. No special tools required to load and unload springs,- just remove and install nuts using 15/16" deep well socket.
2. Spring force can be increased by an additional 20% over standard by adding optional 6th Spring Kit. (Part No. 6016130)

FIGURE 4 – Spring Force Adjustment, Henke Square Spring Torsion Tripedge Plow

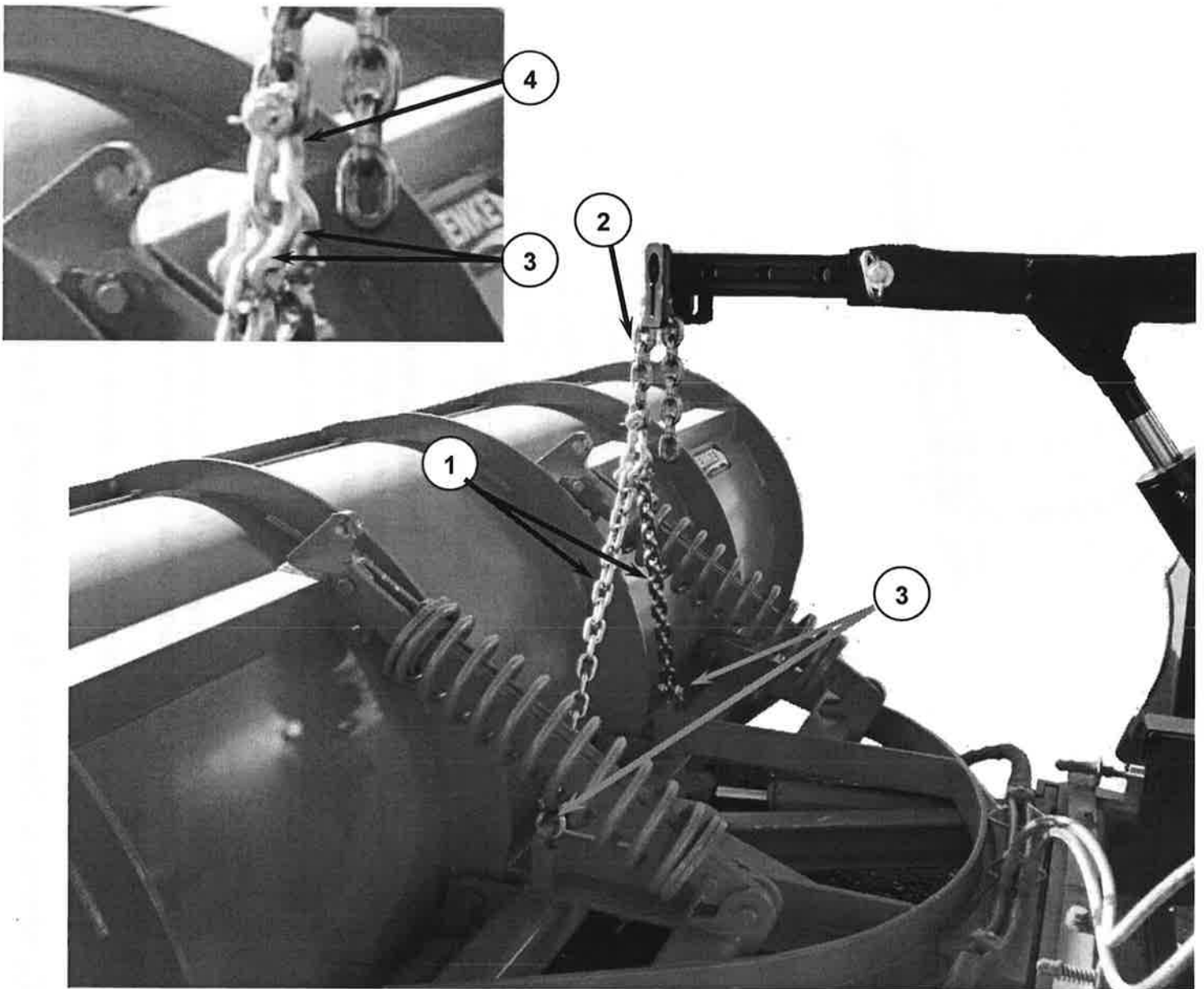
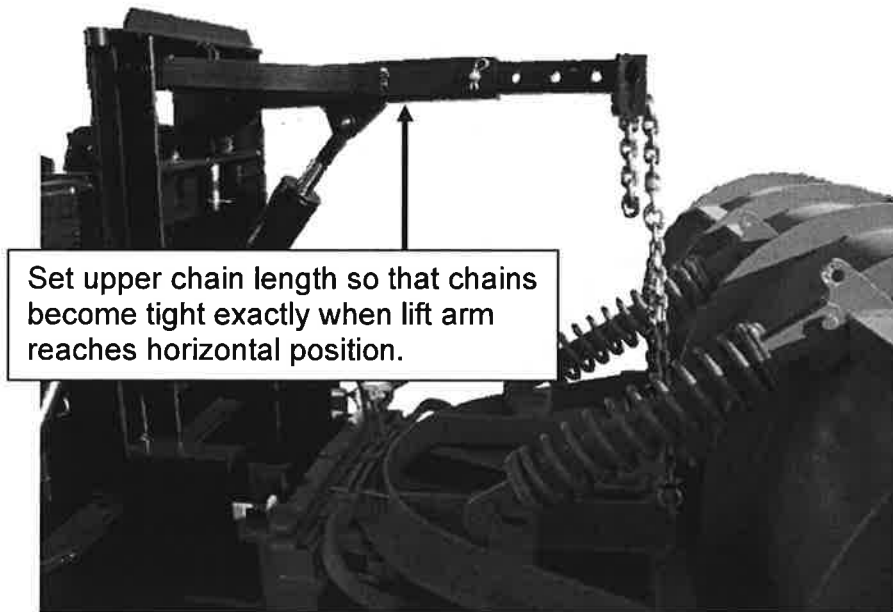


FIGURE 5 – 3-Piece Chain Lift Assembly

TABLE 4 – 3-Piece Chain Lift Assembly

Item No.	Qty.	Part No.	Description
1	2	Varies (Call Henke for Part Number)	Lower Chains, 3/8 GR. 70 (Length Varies)
2	1	1300-2700	Upper Chain, 7/16 x 20"
3	4	7060001	Shackle, 7/16 2-Ton, Round Pin
4	1	7060035	Shackle, 1/2 3-Ton, Round Pin



Set upper chain length so that chains become tight exactly when lift arm reaches horizontal position.

FIGURE 6 – Basic Installation Procedure for 3 Piece Chain Level Lift:

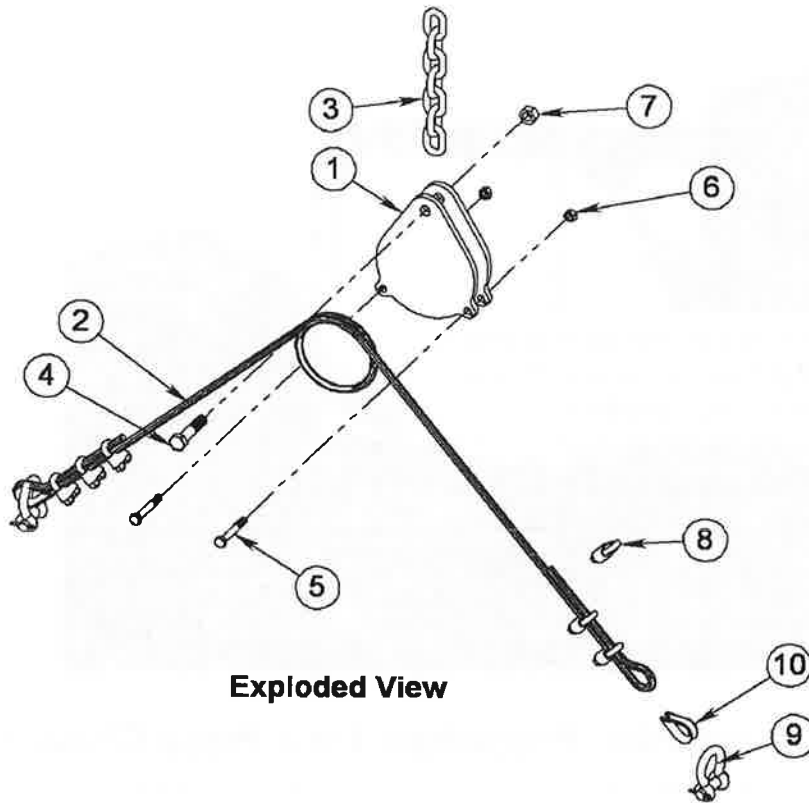
1. Attach plow to hitch using Pin-On or Quick-Hitch connection.
2. Raise hitch lift cylinder until hitch lift arm is approx. 5° below horizontal (with plow end of the lift arm being a little lower than hitch end).
3. Telescope lift arm out until lift chains are running just slightly forward as they run down to plow. Attach upper lift chain of 3-piece chain assembly to center lift eye on hitch inner tube assembly.
4. Begin to raise lift arm, and verify that lift chains become tight exactly when lift arm reaches horizontal position. Adjust chain lengths as necessary.
5. Lift plow off ground approx. 12", then with plow in air, rotate plow side-to-side and verify that plow remains approximately level in all positions (with center of cutting edge 12-15" off ground, neither end of cutting edge should be closer than 10" from ground).
6. Adjust telescoping lift arm inward or outward to provide the best level lifting.

Extending lift arm too far out can cause chain binding. With plow fully lifted, chain attachment point on the plow should never be more than 2" to the rear of front of telescoping lift arm, with plow in the straight position (not reversed left or right).

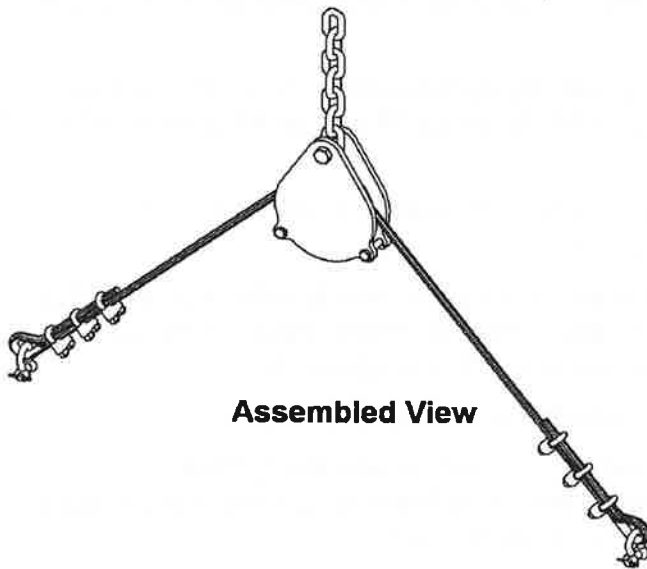
IMPORTANT: On fixed-angle (non-reversing) plows, telescoping lift arm must be set to shortest position, and 3-piece chain arrangement is not used. Instead, separate chains are used on each side.

WARNING: EXTENDING LIFT ARM TOO FAR OUT OR SETTING CHAINS TOO SHORT COULD CAUSE CHAIN BINDING, WHICH COULD CAUSE DEATH OR SERIOUS INJURY DUE TO FAILURE OF CHAIN, SHACKLES, OR OTHER ITEMS.

WARNING: 3-PIECE CHAIN ARRANGEMENT MUST BE USED ON REVERSING PLOWS. ATTACHING INDIVIDUAL CHAINS TO EACH SIDE OF LIFT ARM COULD CAUSE CHAIN BINDING, WHICH MAY CAUSE DEATH OR SERIOUS INJURY DUE TO FAILURE OF CHAINS, SHACKLES, OR OTHER ITEMS.



Exploded View



Assembled View

TABLE 5 – Optional Cable Lift Assembly

Item No.	Qty.	Part No.	Description
1	1	139-1359	Cable Lift Drum Assembly
2	1	1400-0238	Wire Rope, 1/2-6 x 25 IWRC
3	1	1300-2460	Chain
4	1	7020082	Hex Capscrew, 3/4-10 X 3.5 GR.8
5	2	7020051	Hex Capscrew, 1/2-13 x 3.5 GR. 5
6	2	7030101	Nylock Nut, 1/2-13
7	1	7030030	Toplock Nut, 3/4-10 GR. C
8	6	7060012	Cable Clamp, 1/2
9	2	7060001	Shackle, 7/16, 2 Ton
10	2	7060013	Cable Thimble, 1/2

NOTE: Must use double acting lift cylinder on truck hitch

FIGURE 7 – Optional Cable Lift Assembly

<<THIS PAGE IS INTENTIONALLY LEFT BLANK>>

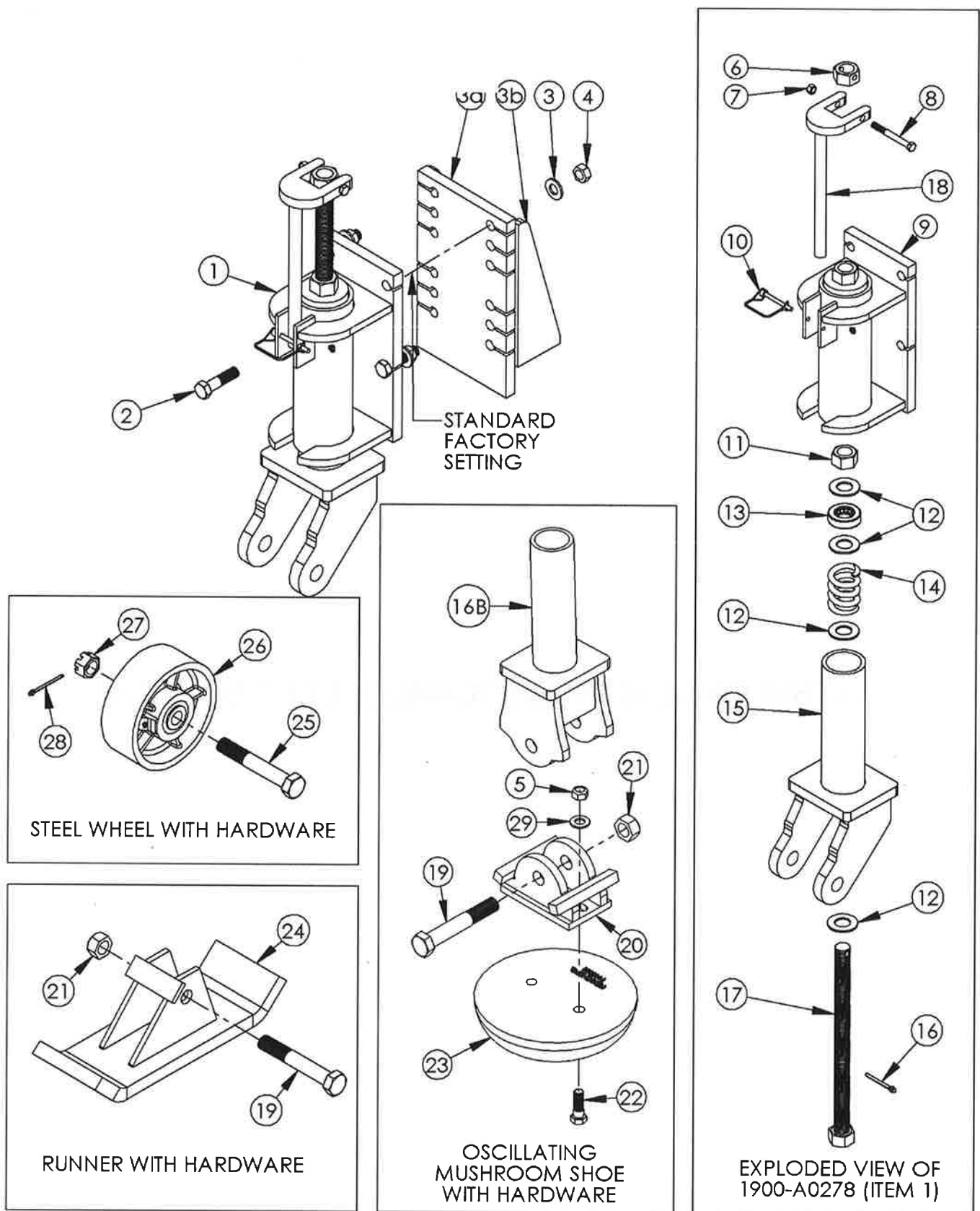


FIGURE 8 – Spring Loaded Running Gear

TABLE 6 – Spring Loaded Running Gear, Parts List

Item No.	Qty.	Part No.	Description
1	1	199-0278	Spring Loaded Running Gear w/o Mount
2	4	7020288	Hex Capscrew, 5/8-11 x 2.5 GR. 8
3a	1	1900-0192	Mounting Plate
3b	2	1900-0193	Mounting Gussets
4	4 or 6	7040006	Flat Washer, 5/8 Hardened, SAE
5	6	7030084	Toplock Nut, 5/8-11 GR. C
6	1	1300-2377*	Crank Handle Nut (included in item 17)
7	1	7030006*	Nylock Nut, 3/8-16
8	1	7020117*	Hex Capscrew, 3/8-16 x 3.5 GR. 5
9	1	139-1288*	Crank Handle
10	1	199-0279*	Outer Tube Assembly
11	1	7050096*	Safety Snap Pin, 1/4 x 2.25
12	1	7030016*	Nut, 1-8 GR. 8
13	4	7040013*	Flat Washer, 1", SAE Thru-Hard
14	1	7010050*	Bearing
15	1	7070013*	Spring
16	1	139-1290*	Inner Tube Assembly
16B	1	199-0364	Inner Tube Assembly for Mushroom Shoe
17	1	139-1291*	Shaft Assembly
18	1	7050041*	Cotter Pin, 1/4 x 2
19	1	7020100	Hex Capscrew, 1-8 x 6.5 GR. 5
20	1	199-0365	Mushroom Shoe Adaptor
21	1	7030049	Toplock Nut, 1-8 GR. C
22	2	7020060 <u>or</u> 7020288	Hex Capscrew, 5/8-11 x 2 GR. 8 (7.5" MS) <u>or</u> Hex Capscrew, 5/8-11 x 2.5 GR. 8 (11" MS)
23	1	7140001	11" Mushroom Shoe
24	1	199-0411	1 x 6 Hitop Runner
25	1	1300-2373	Shoe Bolt
26	1	199-0221	Steel Wheel, 3 x 8 (See separate Parts View)
27	1	7030018	Slotted Nut, 1-8
28	1	7050043	Cotter Pin, 3/16 x 2.5
29	2	7040006	Flat Washer, 5/8" Hardened, SAE

NOTE:

1. Quantities given are for one running gear assembly. Two complete assemblies are required per plow.
2. Part Numbers marked with a * are included in assembly 199-0278 (Item 1).

FIGURE 7 – Henke 8” Steel Wheel Assembly, Parts List

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	7140068	Grease Seal
2	2	7140080	Bearing Cup
3	2	7140081	Bearing Cone
4	2	7140082	Spacer
5	1	199-0221	Steel Wheel Complete (Includes All Items Shown)
6	NA	199-0222	Steel Wheel Bearing Kit (Includes (2) ea. of 1, 2, 3, & 4)

NOTE: Entire Wheel Assembly (including bearings, seals, & spacers) May Be Ordered As 199-0221

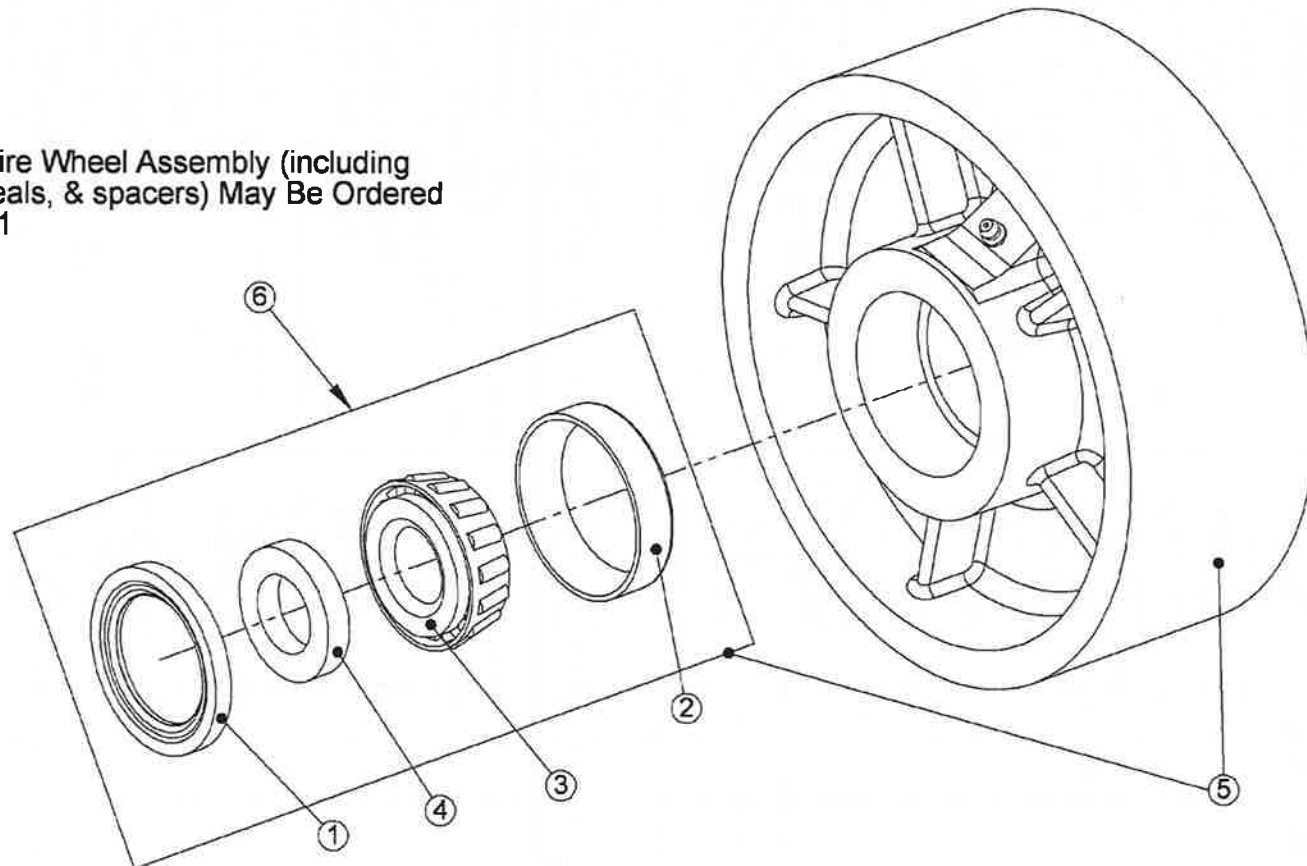


FIGURE 9 – Henke 8” Steel Wheel Assembly

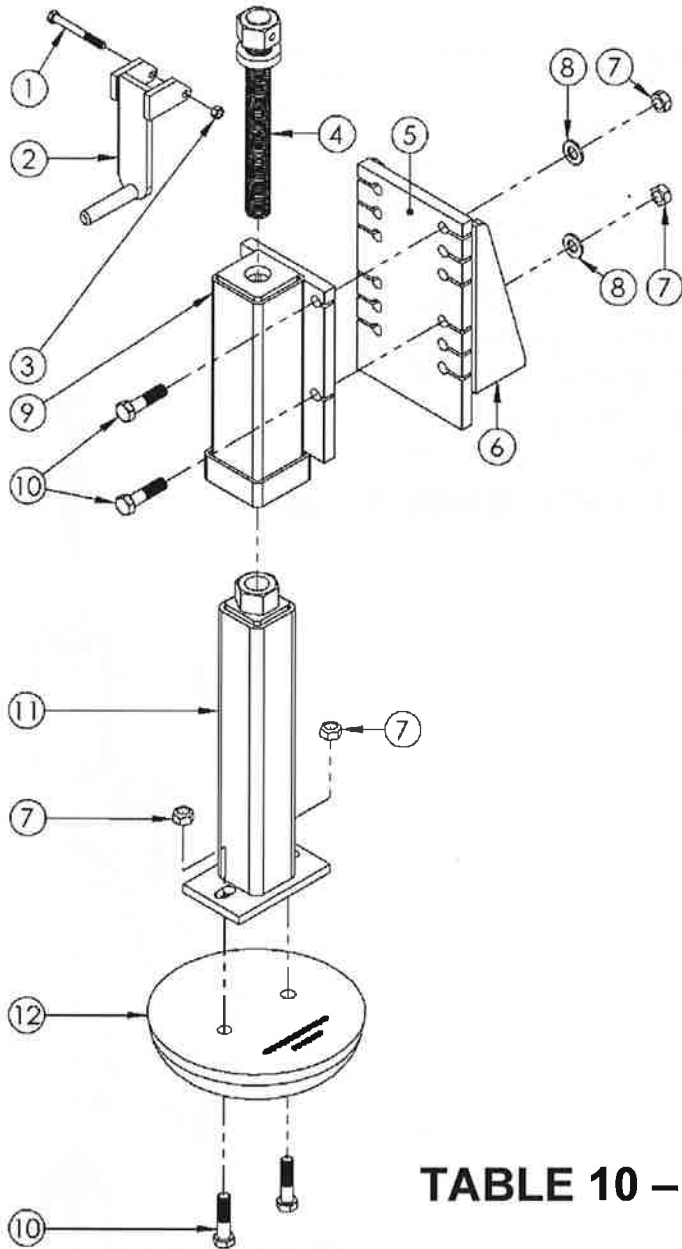


TABLE 10 – Mushroom Shoe Assembly

TABLE 8 – Mushroom Shoe Assembly, Parts list

Item No.	Qty.	Part No.	Description
1	1	7020117	Hex Capscrew, 3/8-16 X 3.5 GR. 5
2	1	199-0019	Running Gear Crank Assembly
3	1	7030006	Nylock Nut, 3/8-16
4	1	199-0041	Screw Assembly
5	1	1900-0192	Mounting Plate
6	2	1900-0193	Mounting Gussets
7	6	7030084	Toplock Nut, 5/8-11 GR. C
8	2	7040006	Flat Washer, 5/8 hardened, SAE
9	1	199-0259	Outer Tube Assembly
10	6	7020288	Hex Capscrew, 5/8-11 X 1.75 GR. 8
11	1	199-0044	Mushroom Shoe Inner Tube Assembly
12	1	7140001	Mushroom Shoe, 11"

TABLE 9 – Pneumatic Running Gear, Parts List

Item No.	Qty.	Part No.	Description
1	1	7020117	Hex Capscrew, 3/8-16 x 3.5 GR. 5
2	1	199-0019	Running Gear Crank Assembly
3	1	7030006	Nylock Nut, 3/8-16
4	1	199-0041	ACME Screw Assembly
5	1	199-0361	Outer Tube & Yoke Assembly
6	2	7020067	Hex Capscrew 5/8-11 x 6 GR. 5
7	1	199-0362	Inner Tube Assembly
8	2	7030084	Toplock Nut, 5/8-11 GR. C
9	1	199-0294	Pneumatic Hub & Wheel Assembly, 5 - Lug

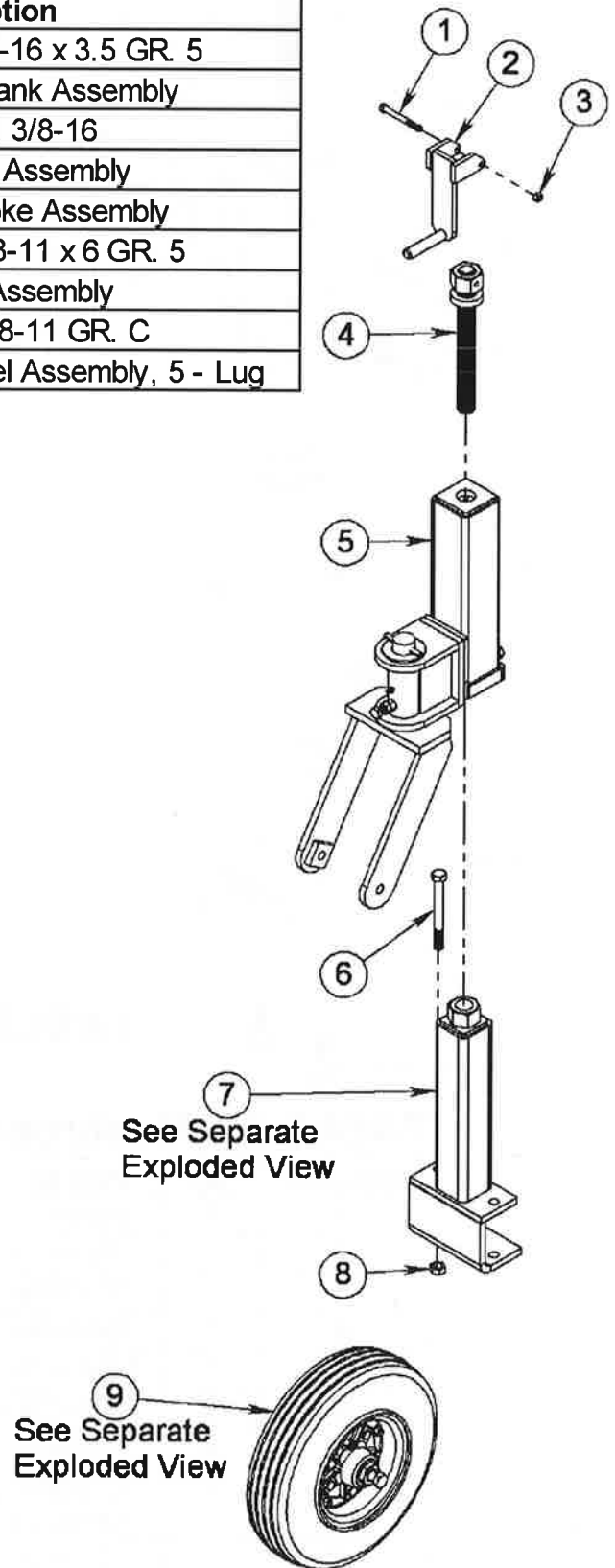


FIGURE 11 – Pneumatic Running Gear

TABLE 10 – Pneumatic Wheel Kit, 5-Lug Hub, Parts List

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	7140095	Pneumatic Rim & Tire Assy, 2 Piece, 5-Lug
2	1	1900-A0295	Hib & Spindle Group Assy - 5-Lug
3	1	1900-A0296	Hub Group Assy
4	5	7030039	Lug Nut, 1/2-20
5	2	7010023	Bearing Cup
6	2	7010003	Bearing Cone
7	2	7140067	Grease Seal
8	1	1900-0070	Spindle
9	2	1900-0154	Spindle Nut
10	1	7020070	Hex Capscrew, 5/8-11 X 8 Gr. 5
11	1	7040006	Flat Washer, Hardened, 5/8 SAE
12	1	7030084	Toplock Nut, 5/8-11 Gr. C
13	1	7090111	Grease Fitting, 1/4-28 Straight

NOTE: Entire Assembly Shown
May Be Ordered As 1900-A0294

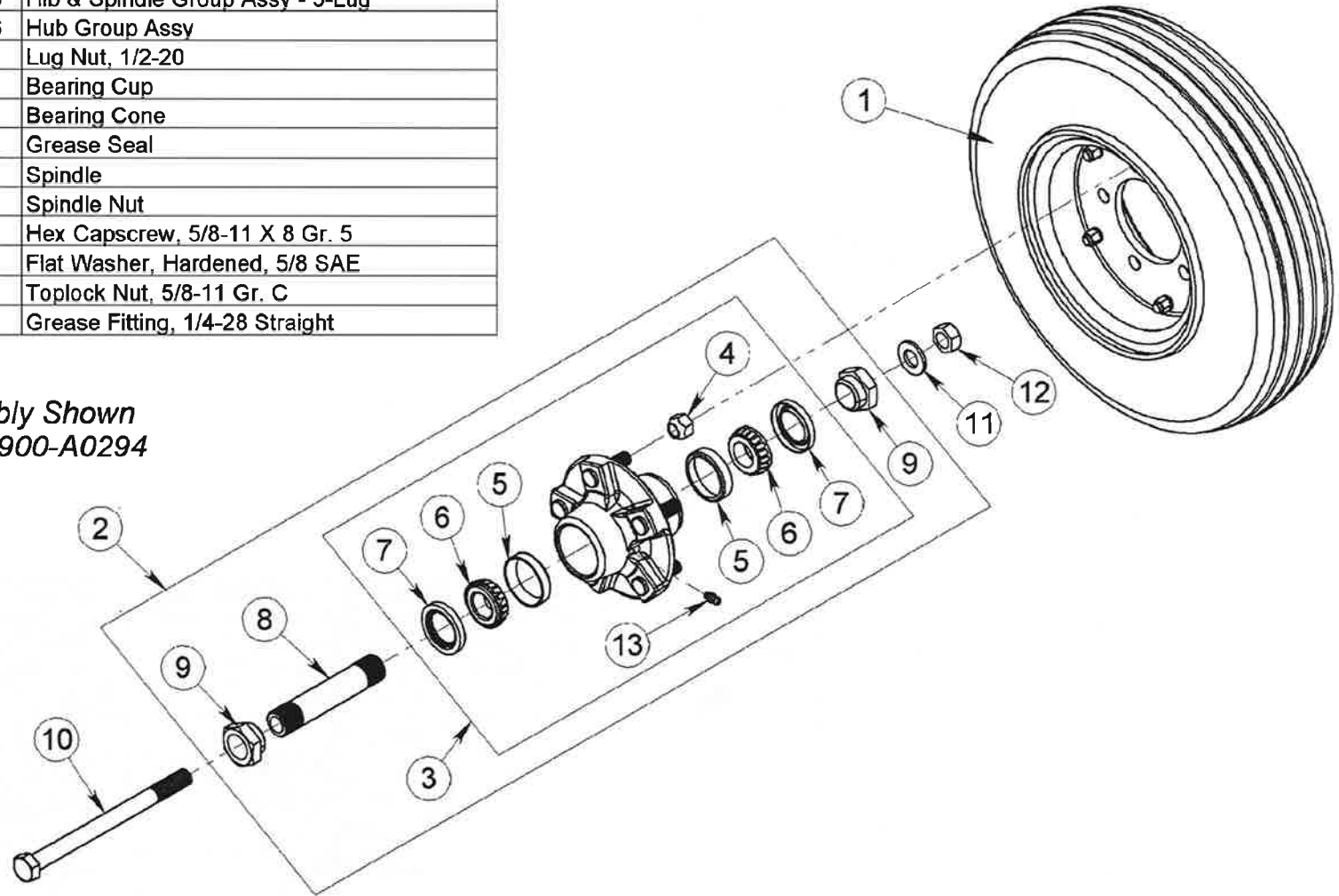


FIGURE 12 – Pneumatic Wheel Kit, 5-Lug Hub

TABLE 11 – Outer Tube & Yoke Assembly, Parts List

Item No.	Qty.	Part No.	Description
1	1	199-0062	Yoke Assembly
2	1	7050029	Roll Pin, 3/8 x 3.5
3	3	7020120	Hex Capscrew, 1/2-13 x 1.5 GR. 5
4	3	7030009	Nut, 1/2-13 GR. 8
5	1	1900-0075	Damper pad
6	1	7090111	Grease Fitting Straight 1/4-28
7	1	199-0360	Outer Tube Assembly
8	1	7040024	Flat Washer 1 1/2, Hardened, SAE

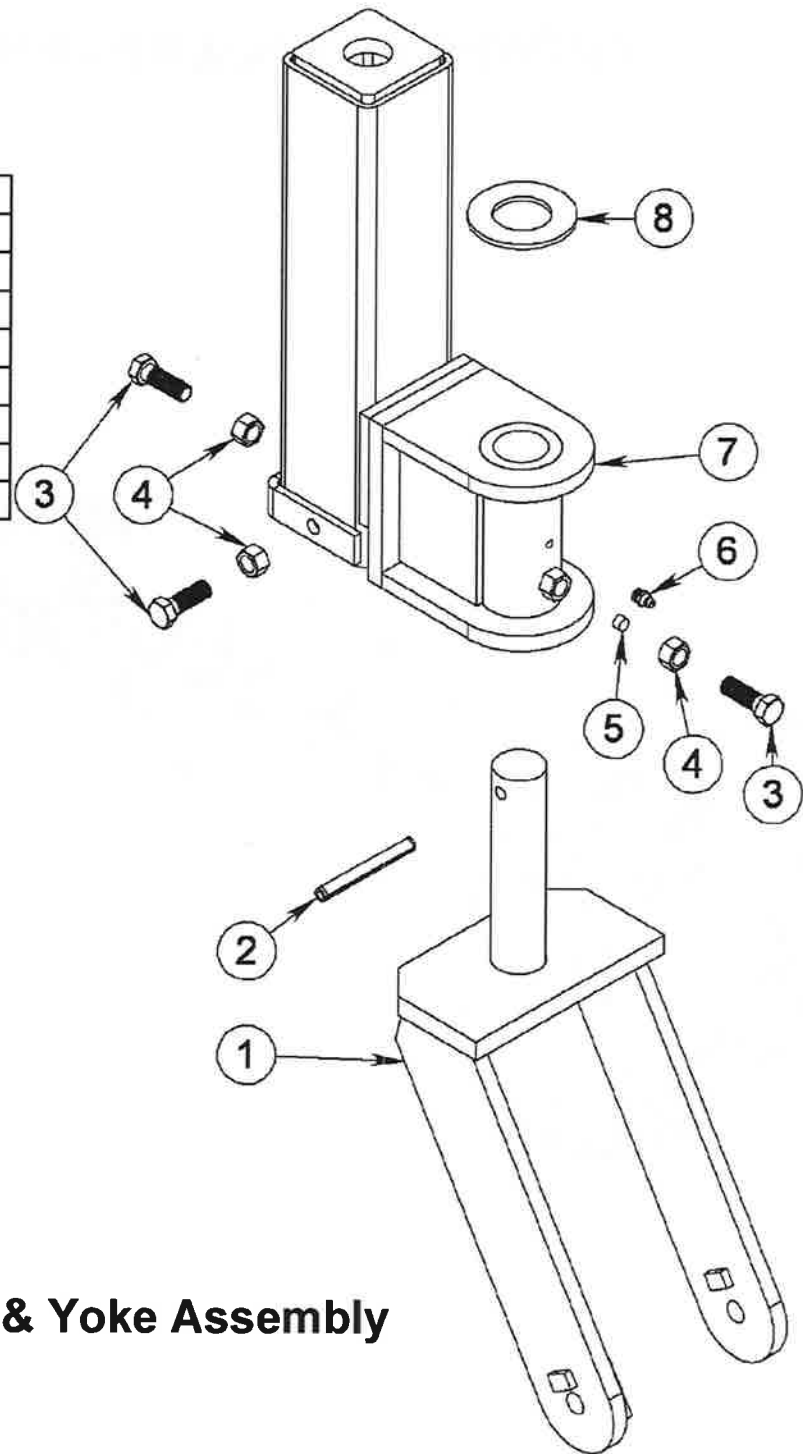


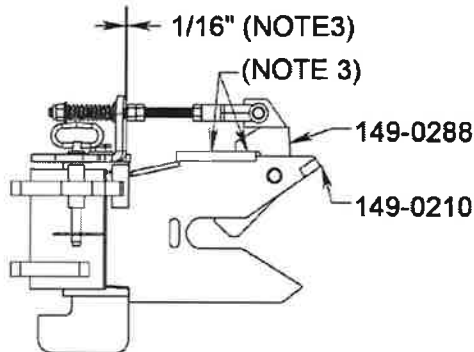
FIGURE 13 – Outer Tube & Yoke Assembly

<<THIS PAGE IS INTENTIONALLY LEFT BLANK>>

TABLE 12 – Universal Quick Hitch (UQH), Part List

Item No.	Qty.	Part No.	Description
1	1	389-0117	UQH Plow Portion Weldment
2	1	1400-0426	Lever Left
3	1	1400-0427	Lever Right
4	2	1400-0552	Latch Adjuster
5	2	7020060	Hex Capscrew, 5/8-11 X 2.00 GR. 8
6	2	7030084	Toplock Nut, 5/8-11 GR. C
7	4	7040006	Flat Washer, 5/8 Hardened, SAE
8	1	7050017	Hair Pin, .125 X 2.65 (Included in Item 12)
9	2	7050044	Cotter Pin, 1/8 X 1
10	2	7070026	Adjusting Yoke
11	6	7030008	Hex Nut, 1/2-20 GR. 2
12	1	7050018	Hitch Pin, .5 X 3.5 Grip
13	2	7050009	Clevis Pin, .50 X 1.50
14	4	7040005	Flat Washer, 1/2 Hardened, USS
15	2	7070099	Spring, 2.75in
16	2	7030091	Nylock Nut, 1/2-20

NOTE: Entire Assembly
Shown May Be Ordered
as 389-0116.



Linkage Adjustment View (NOTE 3)

Assembly and Adjustment Instructions:

1. Install levers (items 2 & 3) using hardware indicated. Check handle function. If mechanism is tight, loosen locknuts just enough to allow smooth operation.
2. Install both lever-to-jaw linkages using hardware shown.
3. Adjust linkages (see "Linkage Adjustment View" below): With handle pinned in "closed" position (towards plow) and latch assembly. (149-0288) resting against top of jaw assy. (149-0210), tighten nuts (item 11) on springs to compress springs approximately 1/4" (compressed spring length = 2.50"). After adjusting spring, back-off both nuts (item 11) from levers (items 2 & 3) 1/16" and tighten.

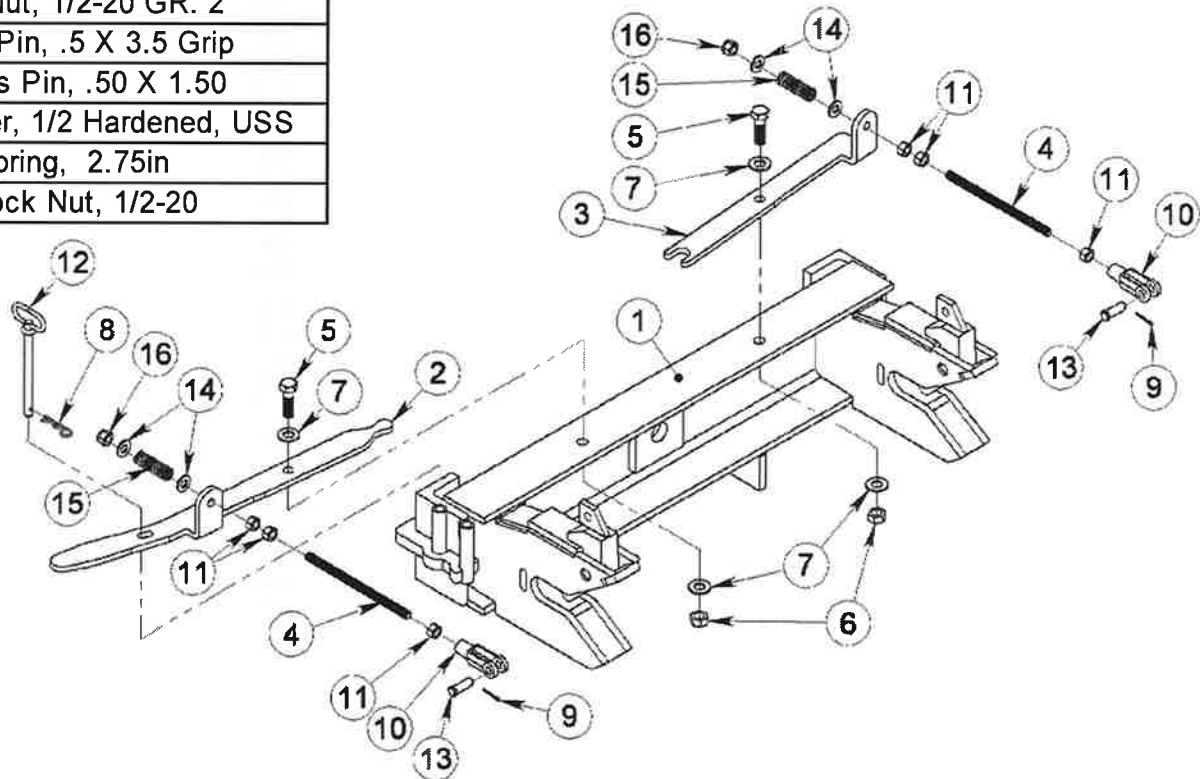
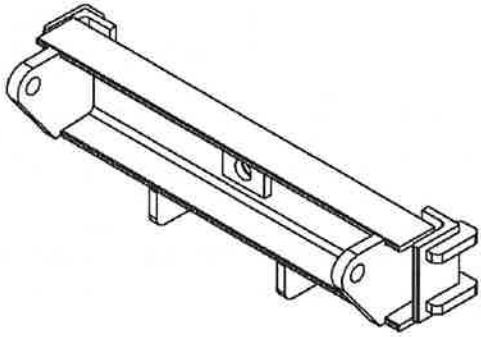


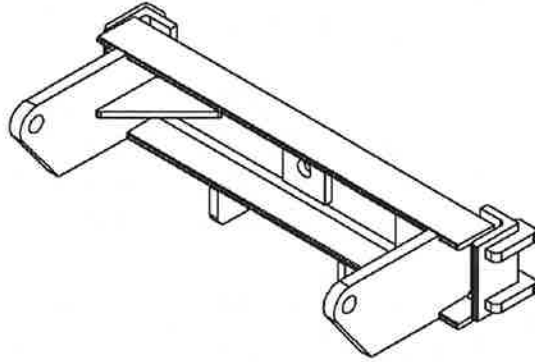
FIGURE 14 – Universal Quick Hitch (UQH)

FIGURE 15 – Swivel Plates & Plow Hitches

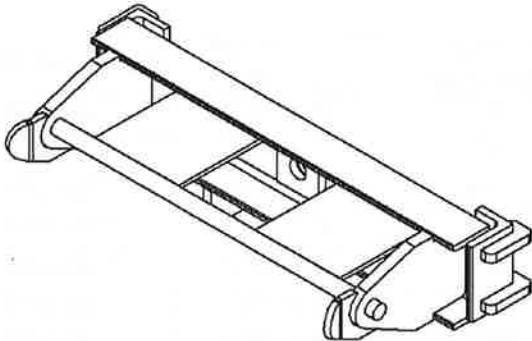
Many different types of swivel plates and plow hitches are available. Samplings are shown below. Please call Henke Manufacturing for part numbers.



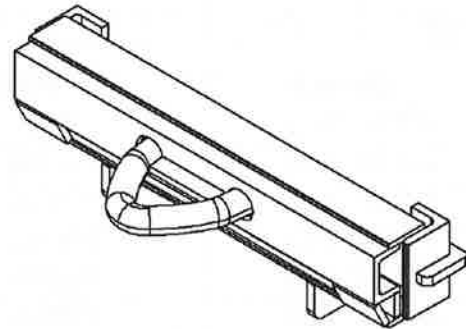
Swivel Plates with Standard Ears



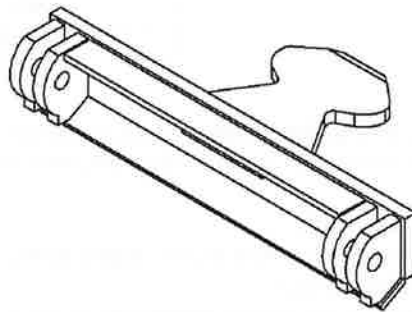
Swivel Plates with Long Ears



Quick-Link Style Swivel Plate
(389-0027)



QCP Style Swivel Plate
(389-0099)



Torlock (Arrowhead) Style Swivel Plate
(139-1358)

TABLE 13 – Cutting Edges

6" STEEL	1/2" THICK	5/8" THICK	3/4" THICK
2FT.	Call	7150119	7150189
3FT.	7150153	7150120	7150073
4FT.	7150154	7150129	7150072
5FT.	7150007	7150184	7150026
6FT.	Call	Call	7150004
7FT.	Call	Call	7150028
8FT.	7150172	Call	Call
9FT.	Call	Call	7150036
10FT.	7150008	7150090	7150197
11FT.	7150009	7150089	7150031
12FT.	7150010	7150082	7150032

8" STEEL	1/2" THICK	5/8" THICK	3/4" THICK
2FT.	7150039	7150077	Call
3FT.	7150037	7150078	Call
4FT.	7150038	7150079	Call
5FT.	7150011	Call	7150054
6FT.	7150005	7150081	7150055
8FT.	7150012	Call	7150042
9FT.	7150013	7150045	7150046
10FT.	7150014	7150043	7150047
11FT.	7150015	7150040	7150048
12FT.	7150016	7150044	7150049

CP 6" STEEL	1/2" THICK	5/8" THICK	3/4" THICK
3FT.	7150186	Call	Call
4FT.	7150187	Call	Call

CP 8" STEEL	1/2" THICK	5/8" THICK	3/4" THICK
3FT.	7150021	Call	Call
4FT.	7150022	Call	Call
10FT.	7150017	Call	7150171
11FT.	7150018	7150169	Call
12FT.	7150019	7150056	Call

CP 10" STEEL	1/2" THICK	5/8" THICK	3/4" THICK
10FT.	Call	Call	7150050

RUBBER Notes 5&6	1 1/2" THICK X10" Tall CP	RETAINING STRIP
8FT.	3500-0008	3500-0026
9FT.	3500-0009	1300-2223
10FT.	3500-0010	1300-0394
11FT.	3500-0011	1300-0395
12FT.	3500-0012	1300-0396
14FT.	3500-0014	1300-0401
16FT.	3500-0016	1300-0402

CARBIDE	3/4" THICK
3FT.X5" TALL	Call
3FT.X6" TALL	7150035
3FT.X8" TALL	7150163
4FT.X5" TALL	7150123
4FT.X6" TALL	7150025
4FT.X8" TALL	7150164
5FT.X8" TALL	7150097
6FT.X6" TALL	7150124

SNOW BASKET	1" THICK X10" Tall CP
8FT.	7150052
9FT.	7150053
10FT.	7150088

NOTES:


1. For Cutting Edges Not Listed Call Henke Manufacturing at 1-888-682-9010.
2. Except as noted, all cutting edges have 1.5" gauge line (distance from top edge to center of holes)
3. "CP" = Center Punched
4. All edges shown are punched for 5/8" bolts.
5. For rubber cutting edges, 6" tall center punched steel edges, Items 7150186 & 7150187 may be used to provide proper support behind the rubber edge.
6. Henke's rubber cutting edges feature a minimum tensile strength of 2000 psi and a maximum DIN rating of 150, and last much longer in service than lower quality rubber cutting edges available from some other suppliers.
7. Polyurethane cutting edges also available - call for price and availability.

TABLE 14 – Cutting Edge Hardware

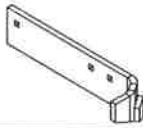
TYPE	LENGTH	PART NO.	USES/NOTES
PLOWBOLTS 5/8-11 GRADE 8	2"	7150001	FOR STANDARD CUTTING EDGES AND WEAR GUARDS
	2 ½"	7150003	
	3"	7150002	
	3 ½"	7150103	
	4"	7150105	
	4 ½"	7150106	
	5"	7150108	
CARRIAGE BOLTS 5/8-11 GRADE 8	3"	7020280	FOR SOME WRAPAROUND CURB GUARDS (SQUARE HOLES, NOT COUNTER SUNK)
	4"	7020287	
	5"	7020359	
	6"	7020363	
HEX BOLTS	4"	7020064	RUBBER AND POLY CUTTING EDGES (USE NYLOCK NUTS ONLY)
	4 ½"	7020128	
	5"	7020295	
TOPLOCK NUT 5/8-11 GRADE C	N/A	7030084	USE WITH STEEL OR CARBIDE CUTTING EDGES
NYLOCK NUT 5/8-11 GRADE 8	N/A	7030095	USE WITH RUBBER OR POLY CUTTING EDGES

TABLE 15 – Henke Curb Guards & Wear Guards

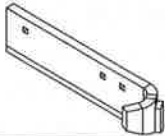
Wrap-Around Curb Guards, Steel

	7150122	6", Left
	7150121	6", Right
	7150117	8", Reversible


Wrap-Around Curb Guards, Chrome-Carbide Weld Deposit on Wrap-Around Corner

	7150125	6", Left
	7150126	6", Right
	7150115	8", Left
	7150118	8", Right

Wrap-Around Curb Guard + Wear Guard, Chrome-Carbide Weld Deposit on Wrap-Around Corner + on Bottom Wear Edge


	7150113	6", Left
	7150114	6", Right
	7150130	8", Left
	7150131	8", Right

Bolt-On Curb Guards (Bolts to Outside of End Rib)


	139-1046	Bolt-On Guard Assy.
	1300-1633	Optional spacer (Required for Tripedge applications)

Henke Wear Guards and Wear Shoes

Wear Guards, Standard Length (9"), with Chrome-Carbide Weld Deposit (Mount in front of cutting edge)


	7140106	6", Reversible
	7140107	8", Reversible

Wear Guards, Long Length (21"), with Chrome-Carbide Weld Deposit (Mount in front of cutting edge)

	7140108	6", Reversible
	7140008	8", Reversible

Cast Wear Shoes

(Mount behind cutting edge)

	7140004	Wear shoe for 6" cutting edges, or 8" center-punched edges
	7140002	Wear shoe for 8" cutting edges

Bottom Angle Saver (Mount behind of Bottom Angle)

	199-0280	Bottom Angle Saver with Carbide Strip
---	----------	---------------------------------------

<THIS PAGE IS INTENTIONALLY LEFT BLANK>

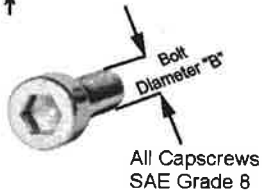
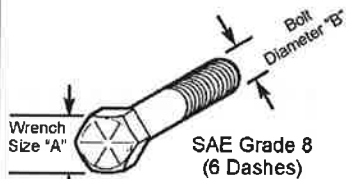
MAINTENANCE

MAINTENANCE

TORQUE SPECIFICATIONS - DRY TORQUE

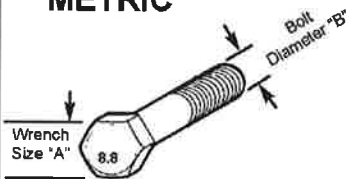
Proper torque for American fasteners.
Recommended Torque in Foot Pounds (Newton Meters).*

AMERICAN Bolt Head Markings



WRENCH SIZE (IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 20 UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 28 UNF	6 (8)	10 (13)	14 (18)
1/2	5/16 - 18 UNC	11 (15)	17 (23)	25 (33)
1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
9/16	3/8 - 16 UNC	20 (27)	31 (42)	44 (60)
9/16	3/8 - 24 UNF	23 (31)	35 (47)	49 (66)
5/8	7/16 - 14 UNC	32 (43)	49 (66)	70 (95)
5/8	7/16 - 20 UNF	36 (49)	55 (75)	78 (106)
3/4	1/2 - 13 UNC	49 (66)	76 (103)	106 (144)
3/4	1/2 - 20 UNF	55 (75)	85 (115)	120 (163)
7/8	9/16 - 12 UNC	70 (95)	109 (148)	153 (207)
7/8	9/16 - 18 UNF	79 (107)	122 (165)	172 (233)
15/16	5/8 - 11 UNC	97 (131)	150 (203)	212 (287)
15/16	5/8 - 18 UNF	110 (149)	170 (230)	240 (325)
1-1/8	3/4 - 10 UNC	144 (195)	266 (360)	376 (509)
1-1/8	3/4 - 16 UNF	192 (260)	297 (402)	420 (569)
1-5/16	7/8 - 9 UNC	186 (225)	430 (583)	606 (821)
1-5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
1-1/2	1 - 8 UNC	250 (339)	644 (873)	909 (1232)
1-1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
1-1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
1-11/16	1-1/8 - 7 UNC	354 (480)	795 (1077)	1268 (1745)
1-11/16	1-1/8 - 12 UNF	397 (538)	890 (1206)	1444 (1957)
1-7/8	1-1/4 - 7 UNC	500 (678)	1120 (1518)	1817 (2462)
1-7/8	1-1/4 - 12 UNF	553 (749)	1241 (1682)	2013 (2728)
2-1/16	1-3/8 - 6 UNC	655 (887)	1470 (1992)	2382 (3228)
2-1/16	1-3/8 - 12 UNF	746 (1011)	1672 (2266)	2712 (3675)
2-1/4	1-1/2 - 6 UNC	870 (1179)	1950 (2642)	3161 (4283)
2-1/4	1-1/2 - 12 UNF	979 (1327)	2194 (2973)	3657 (4820)

METRIC



Numbers appearing on bolt heads indicate ASTM class.

*Use 75% of the specified torque value for plated fasteners. Use 85% of the specified torque values for lubricated fasteners.

Proper torque for Metric fasteners.
Recommended torque in Foot Pounds (Newton Meters).*

WRENCH SIZE (mm) "A"	BOLT DIA. (mm) "B"	ASTM 4.8	ASTM 8.8	ASTM 9.8	ASTM 10.9
8	5	1.8 (2.4)		5.1 (6.9)	6.5 (8.8)
10	6	3 (4)		8.7 (12)	11.1 (15)
13	8	7.3 (10)		21.1 (29)	27 (37)
16	10	14.5 (20)		42 (57)	53 (72)
18	12	25 (34)	74 (100)	73 (99)	93 (126)
21	14	40 (54)	118 (160)	116 (157)	148 (201)
24	16	62 (84)	187 (228)	181 (245)	230 (312)
30	20	122 (165)	325 (440)		449 (608)
33	22		443 (600)		611 (826)
36	24	211 (286)	563 (763)		778 (1054)
41	27		821 (1112)		1138 (1542)
46	30	418 (566)	1119 (1516)		1547 (2096)

Mnt-B-0005

HENKE

LIMITED WARRANTY

1. LIMITED WARRANTIES

- 1.01. Henke warrants for one year from the purchase date to the original non-commercial, governmental, or municipal purchaser ("Purchaser") and warrants for twelve months to the original commercial or industrial purchaser
- 1.02. Manufacturer will repair or replace for the Purchaser any part or parts found, upon examination at one of its factories, to be defective under normal use and service due to defects in material or workmanship.
- 1.03. This limited warranty does not apply to any part of the goods which has been subjected to improper or abnormal use, negligence, alteration, modification, or accident, damaged due to lack of maintenance or use of wrong fuel, oil, or lubricants, or which has served its normal life. This warranty does not include normal wear items such as cutting edges, wear guards, scarifier teeth, etc. or improper installation. HMC warranty for any purchased components, such as hydraulic cylinders will be superceded by, and equal to the component manufacturer warranty.
- 1.04. Except as provided herein, no employee, agent, Dealer, or other person is authorized to give any warranties of any nature on behalf of Manufacturer.

2. REMEDIES AND PROCEDURES.

- 2.01. Warranty claims must be filled within 30 days of repair work during the one year warranty period and will be honored only if the completed warranty registration form has been returned. Henke reserves the right to require proof of purchase of original Henke replacement parts. If warranty is approved any allowed shipping expenses will be based on and will not exceed standard base shipping charges.
- 2.02. Purchaser claims must be made in writing to the Authorized Dealer ("Dealer") from whom Purchaser purchased the goods or an approved Authorized Dealer ("Dealer") within 30 days after Purchaser learns of the facts on which the claim is based.
- 2.03. Purchaser is responsible for returning the goods in question to the Dealer.
- 2.04. If after examining the goods and/or parts in question, Manufacturer finds them to be defective under normal use and service due to defects in material or workmanship, Manufacturer will:
 - (a) Repair or replace the defective goods or part(s) or
 - (b) Reimburse Purchaser for the cost of the part(s) and reasonable labor charges (as determined by Manufacturer) if Purchaser paid for the repair and/or replacement prior to the final determination of applicability of the warranty by Manufacturer.

The choice of remedy shall belong to Manufacturer.

- 2.05. Purchaser is responsible for any labor charges exceeding a reasonable amount as determined by Manufacturer and for returning the goods to the Dealer, whether or not the claim is approved. Purchaser is responsible for the transportation cost for the goods or part(s) from the Dealer to the designated factory.

3. LIMITATION OF LIABILITY.

- 3.01. MANUFACTURER DISCLAIMS ANY EXPRESS (EXCEPT AS SET FORTH HEREIN) AND IMPLIED WARRANTIES WITH RESPECT TO THE GOODS INCLUDING, BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
- 3.02. MANUFACTURER MAKES NO WARRANTY AS TO THE DESIGN, CAPABILITY, CAPACITY, OR SUITABILITY FOR USE OF THE GOODS.
- 3.03. EXCEPT AS PROVIDED HEREIN, MANUFACTURER SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO PURCHASER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS, OR DAMAGE CAUSED OR ALLEGED TO BE CAUSED DIRECTLY OR INDIRECTLY BY THE GOODS INCLUDING, BUT NOT LIMITED TO, ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES RESULTING FROM THE USE OR OPERATION OF THE GOODS OR ANY BREACH OF THIS WARRANTY. NOT WITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, MANUFACTURER'S LIABILITY HEREUNDER FOR DAMAGES INCURRED BY PURCHASER OR OTHERS SHALL NOT EXCEED THE PRICE OF THE GOODS.
- 3.04. NO ACTION ARISING OUT OF ANY CLAIMED BREACH OF THIS WARRANTY OR TRANSACTIONS UNDER THIS WARRANTY MAY BE BROUGHT MORE THAN TWO (2) YEARS AFTER THE CAUSE OF ACTION HAS OCCURRED.

4. MISCELLANEOUS.

- 4.01. Proper Venue for any lawsuits arising from or related to this limited warranty shall be only in Leavenworth County, Kansas.
- 4.02. Manufacturer may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.
- 4.03. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.
- 4.04. Applicable law may provide rights and benefits to purchaser in addition to those provided herein.

KEEP FOR YOUR RECORDS

ATTENTION: Purchaser should fill in the blanks below for his reference when buying repair parts and/or for proper machine identification when applying for warranty.

Henke Implement Model _____ Serial Number _____

Date Purchased _____ Dealer _____

ATTENTION:

READ YOUR OPERATOR'S MANUAL

HENKE MANUFACTURING

An Alamo Group Company

3070 Wilson

Leavenworth, KS 66048

888-682-0300



Dealer Warranty Procedure

For units delivered within the past 12 months, report any warranty problems needing repair to our Product support department. Please have information ready regarding:

1. Henke unit model and serial number,
2. Model of equipment Henke unit is attached to (prime mover)
3. Description of the problem and any helpful information by the end user. (Photos are always helpful).

Measurements or photos may be requested by Henke engineering for any issues regarding prime mover proximity and clearance, or any other unique considerations of fit and adaptability. These may be necessary for a proper repair recommendation and procedure.

Henke will respond with a written labor hour allowance for Henke participation on a faxed claim form and will ship any required replacement parts. If necessary, a repair procedure will be included on the claim form. A parts invoice will be generated to confirm shipment of the replacement parts.

If defective parts are needed for analysis, Henke will request their return. Any such returned items are to be labeled with the claim number and returned to:

Henke Manufacturing Corp.
ATTN: Product Support
3070 Wilson Ave.
Leavenworth, KS. 66048
RGA# _____

The dealer should perform repairs as agreed on a dealer warranty repair order. Return the claim form with a copy of the dealer warranty repair order and service report. Credit as agreed will be issued to the dealer upon receipt of the dealer warranty repair order invoice (Pro-forma invoice), and upon receipt, inspection and warranty confirmation of the returned parts if any.

Parts & Service Assistance

Parts and service assistance is available, Monday through Friday, from **8:00 am to 5:00 pm, CST. Call 913-682-9000.**

Our web site, www.henkemfg.com, is a quick source for parts pricing, and many common parts diagrams.

Parts purchase orders may be faxed in at any time to **913-682-0300**. Faxed orders are encouraged, as they help insure order accuracy and follow up. Include any special instructions, such as drop ship addresses on your order.