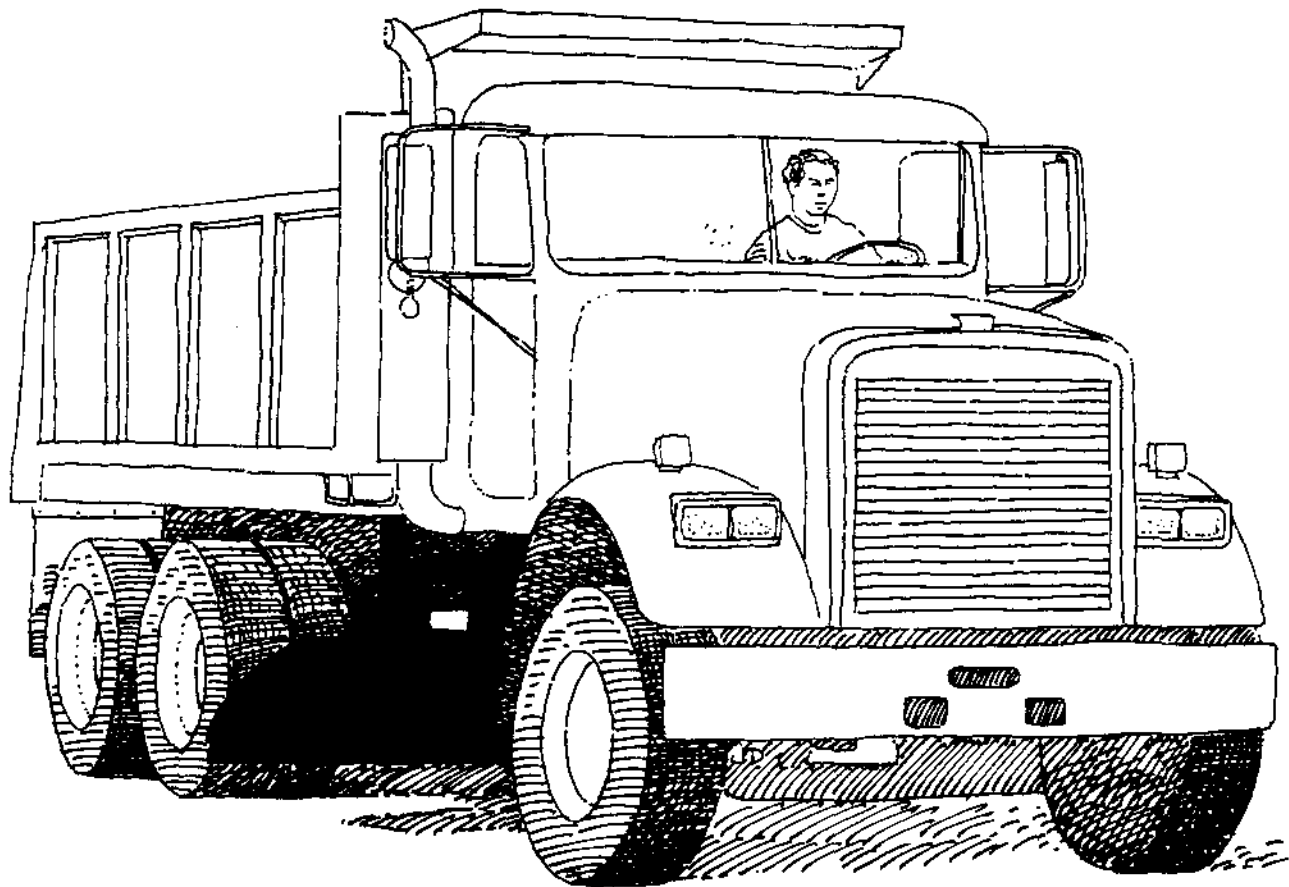


UNDERBODY SCRAPERS

FOR MEDIUM AND HEAVY DUTY TRUCKS



**PARTS BOOK AND INSTALLATION MANUAL
HENKE EXTRA HEAVY UNDERBODY SCRAPER
MODEL UBS XH**

Revision 2.0, Feb. 2002

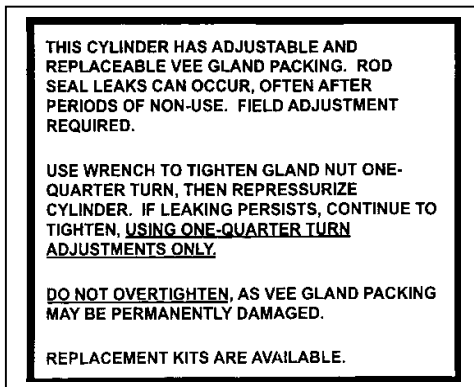
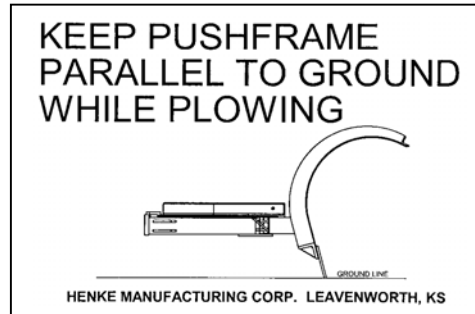
HENKE MANUFACTURING CORPORATION
MANUFACTURERS OF SNOW REMOVAL EQUIPMENT FOR 70 YEARS



SAFETY

ONE OR MORE OF THESE SAFETY STICKERS MAY APPEAR ON YOUR HENKE PLOW. THEY ARE PLACED THERE TO INFORM YOU OF SAFETY ISSUES CONCERNING YOUR TYPE OF PLOW.

ALWAYS READ AND FOLLOW SAFETY WARNINGS. THEY ARE IMPORTANT FOR YOUR SAFETY AND THE PROPER OPERATION OF YOUR HENKE PLOW.



- 1. PERSONS WHO INSTALL, MOUNT, OPERATE OR SERVICE THIS EQUIPMENT MUST BE PROPERLY INSTRUCTED AND WARNED. DO NOT LET ANYONE OPERATE EQUIPMENT WITHOUT PROPER INSTRUCTION.**
- 2. READ DECAL INSTRUCTIONS, CAUTIONS, AND WARNINGS. READ THE SAFETY MESSAGES IN THIS MANUAL AND REPLACE MISSING OR DAMAGED SAFETY DECALS.**
- 3. UNAUTHORIZED MODIFICATIONS TO THE SNOWPLOW AND RELATED COMPONENTS MAY IMPAIR THE FUNCTION AND/OR SAFETY.**

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.

PARTS BOOK AND INSTALLATION MANUAL HENKE EXTRA HEAVY UNDERBODY SCRAPER MODEL UBS XH

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Introduction

Thank you for your purchase of a Henke Model UBS XH Extra Heavy Underbody Scraper. The Henke UBS XH is a heavy duty, durable unit which will provide years of service with a minimum of maintenance. The Henke UBS XH is designed for dirt and gravel road maintenance, and for removal of snow and hard packed ice, by medium and heavy duty trucks.

To ensure safety and ease of installation, it is very important that this manual be read in its entirety prior to installation or operation.

The entire Henke XH unit ships assembled, so that it can be conveniently mounted to the existing truck chassis. Mounting hardware, extra stop blocks, downpressure relief valve, and crossover relief valve are shipped unattached in a separate package.

Installation

1. If necessary, remove the circle hanger assemblies (Item 4, Figure 2) temporarily to fit the unit under the truck.
2. Determine whether shims are required to make the distance between the circle hanger assemblies (Item 4, Figure 2) match the distance between the outside of the truck frame rails. The unit is shipped with two shims installed on each side (Item 8, Figure 2), providing a width of 34.5". Remove shims from one side to get to 34.25" width, or remove shims from both sides to get to 34" width.
3. Position the unit under the truck chassis **as shown in Figure 1**. Any obstructions which prevent mounting or proper operation of the unit must be relocated. **It is critical that the UBS is level and the proper distance from the ground – See Figure 1.**
4. Drill one 25/32" hole (saving room for a second hole later) through each mounting leg and the truck frame behind to achieve the proper positioning. Loosely bolt the four mounting legs to the chassis using (4) 7020255 ¾-10 x 2.5" Gr. 8 bolts, (8) 7040021 ¾ flat washers, and (4) 7030030 ¾ Gr. C toplock nuts to secure the unit in the proper position. **NOTE: Do not do any additional drilling or bolting until the entire unit is squared and the reversing swing of the moldboard is checked.** With the unit properly positioned, tighten the four bolts sufficiently to hold the unit in place for testing.
5. Connect the separate reversing and actuating hydraulic systems to the hydraulic system of the truck. The DXV-10-1000psi Crossover Relief Valve

must be properly plumbed into the reversing hydraulic system, and the JL-10-500psi Downpressure Relief Valve must be properly plumbed into the actuating hydraulic system.

6. Carefully activate the reversing cylinders and check to see that the UBS XH, when fully angled in either direction, does not strike the tires or any other part of the truck. The unit is shipped with two stop blocks installed on the circle to prevent damage to the hydraulic cylinders. Two additional stop blocks are shipped loose, and must be installed to limit moldboard reversing swing if the UBS XH strikes any part of the truck when reversing. Note: The angle of the actuating canisters (Item 11, Figure 2) changes when the moldboard is actuated. If the canisters come close to striking any part of the truck, the moldboard should be partially actuated (but **not** touching the ground) and the unit should be reversed again to check for obstructions. **Never attempt to reverse the moldboard with the cutting edge touching the ground.**
7. If additional stop blocks are required to limit travel, reverse the unit one way and stop it a safe distance before it hits the obstruction, then tack the stop block in place on the circle in the proper location. Ensure that the 3" side of the stop block fully contacts the end of the circle clamp or wear pad (Item 5 or 6, Figure 2). Repeat this procedure in the opposite reversing direction, if necessary, using the second stop block. Fully weld the stop blocks in place on three sides, leaving the contact side unwelded.
8. Using the reversing cylinders, position the moldboard 90° to the truck frame. Cautiously activate the moldboard actuating cylinders, moving the moldboard from raised to plowing position. The moldboard cutting edge should touch the ground before the actuating cylinder rods are fully extended. Ensure that the cutting edge strikes the ground evenly. If the cutting edge does not strike the ground evenly, with the ground flat and level and the moldboard reversed 90° to the truck frame, it may be necessary to adjust the bolting location of the circle hanger assemblies on the truck frame.
9. With the unit properly positioned and the first four 3/4" bolts fully tightened, drill four additional holes and install four more 3/4" bolts through the circle hanger legs into the truck frame. (A total of eight 3/4 bolts should now be holding the UBS XH to the truck frame, two through each hanger leg). Torque all eight toplock nuts to 170 foot-lbs., alternating between legs.
10. Ensure that all bolts are fully torqued, and that all 9 grease fittings have been greased (fittings are greased before they leave the factory but should be double-checked).

Operation

1. The reversing cylinders should never be operated while the moldboard is in plowing position. **THE MOLDBOARD MUST BE IN A RAISED POSITION WHEN REVERSING.**
2. The reversing cylinders and structure are protected by a DXV-10 Crossover Relief Valve factory preset to 1000 psi. Exceeding this 1000 psi relief pressure may cause damage to the unit and/or the vehicle and result in a serious safety problem. **THE DXV-10-1000psi CROSSOVER RELIEF VALVE MUST BE INSTALLED AND FUNCTIONING PROPERLY AS PART OF THE HYDRAULIC REVERSING SYSTEM.**
3. The actuating cylinders and structure are protected by two heavy duty shock spring assemblies and a JL-10 Downpressure Relief Valve factory preset to 500 psi. Exceeding this 500 psi maximum operating pressure may cause the shock springs to fully compress and fail to provide adequate protection when an obstacle is encountered. This may cause damage to the unit and/or the vehicle and result in a serious safety problem. **THE JL-10-500psi DOWNPRESSURE RELIEF VALVE MUST BE INSTALLED AND FUNCTIONING PROPERLY AS PART OF THE HYDRAULIC ACTUATING SYSTEM.**
4. **FAILURE TO OBSERVE ITEMS (1), (2), AND (3) ABOVE WILL VOID ALL WARRANTIES AND ABSOLVE HENKE OF ANY CLAIMS.**
5. All 9 grease fittings should be greased on a regular basis.
6. All fasteners should be checked for tightness and retorqued as necessary after the first hour of operation and every eight hours of operation thereafter.

MINIMUM MOUNTING DISTANCES				
MOLDBOARD LENGTH	REV. ANGLE	A	B	C
10 FT. MOLDBOARD	35°	92"	33"	33"
	40°	99"	36"	36"
	45°	102"	38"	38"
11 FT. MOLDBOARD	35°	98"	36"	36"
	40°	106"	40"	40"
	45°	112"	42"	42"
12 FT. MOLDBOARD	35°	106"	40"	40"
	40°	114"	44"	44"
	45°	118"	46"	46"

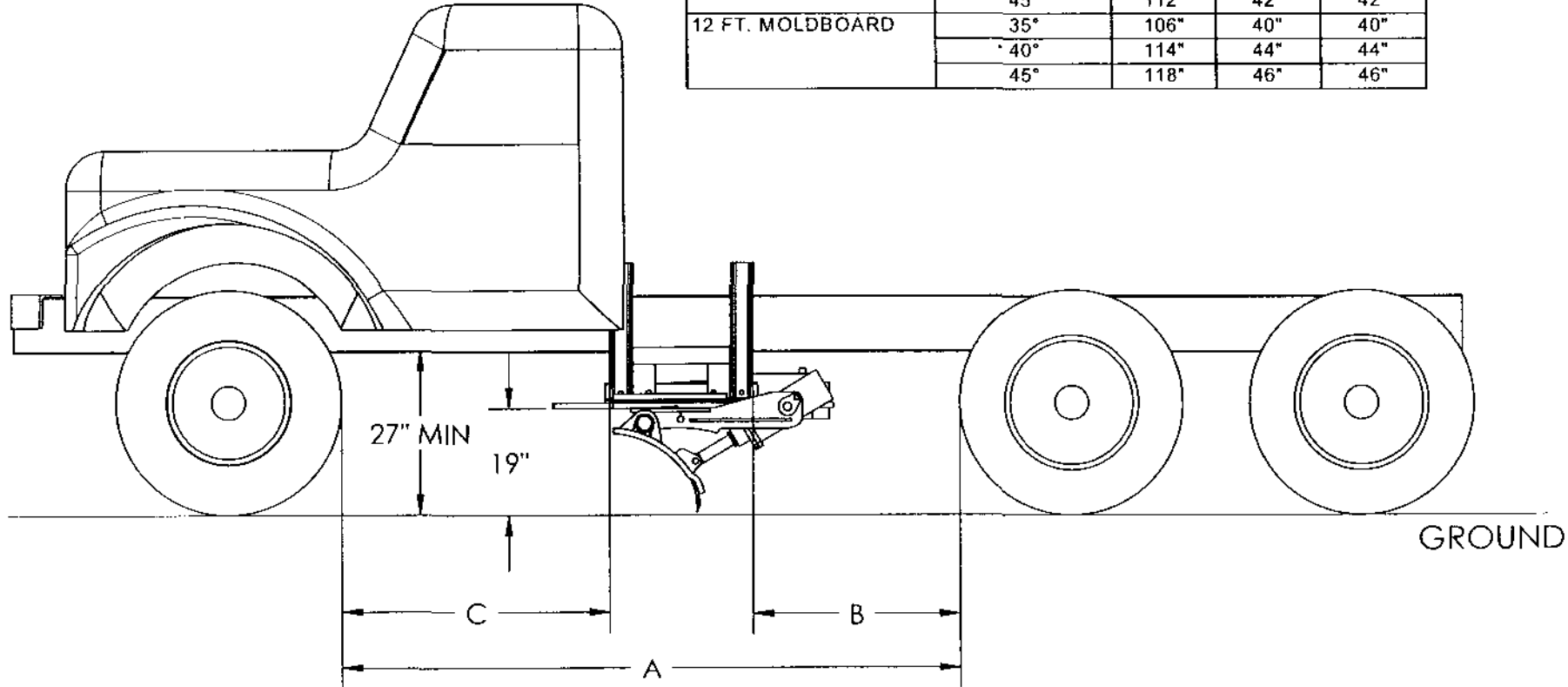


FIGURE 1 - TRUCK SIDE VIEW, UBS XH

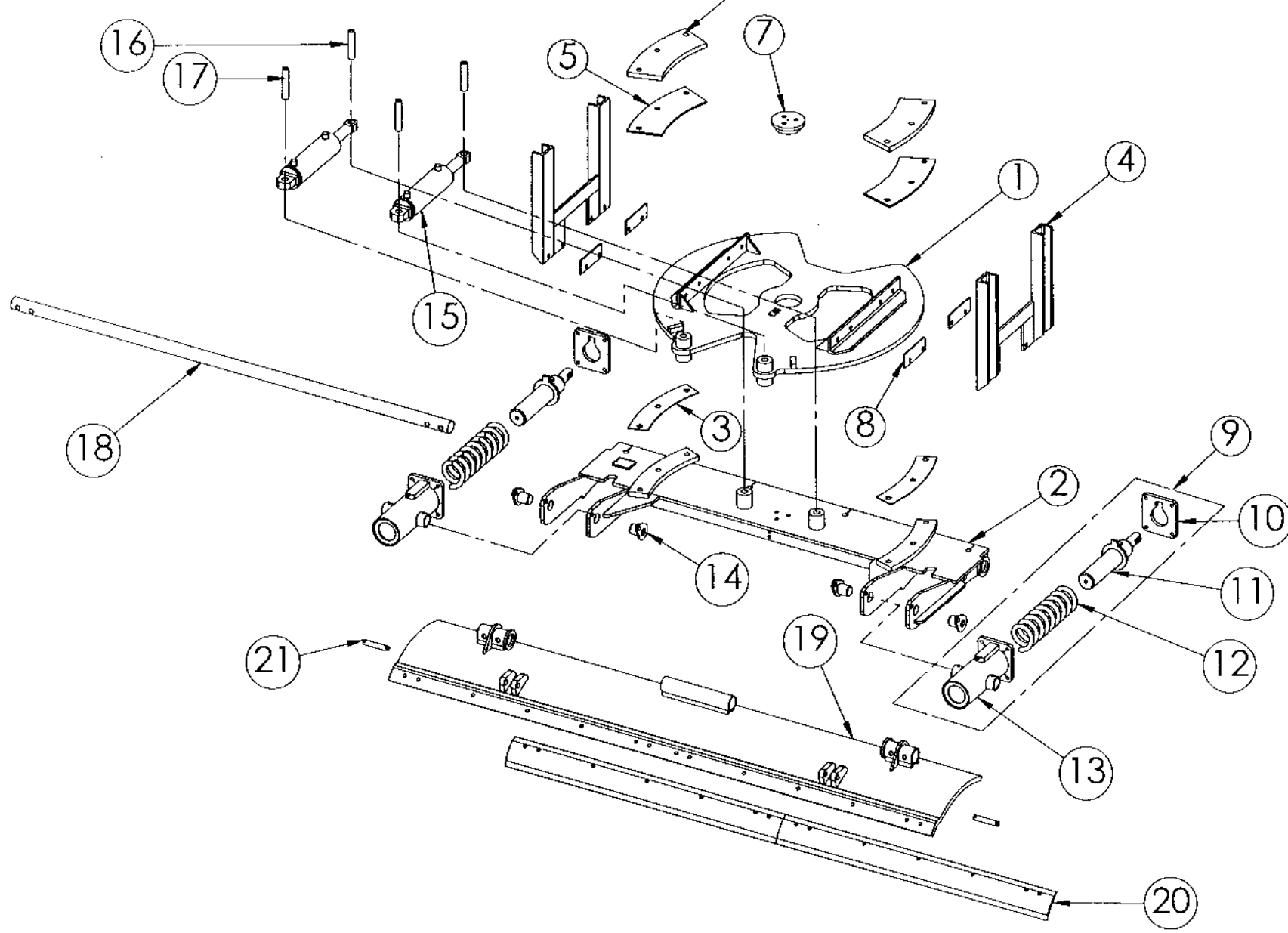


FIGURE 2 - UBS XH EXPLODED VIEW

TABLE 1 - PARTS LIST FOR UBS XH EXPLODED VIEW

Ref. No.	Henke Part No.	Quantity	Description
1	3600-A0068	1	Circle Assembly, Standard
2	3600-A0062	1	Hangerboard Assembly
3	3600-0073	2	Circle Shim
4	3600-A0015 <u>or</u> 3600-0020	2	Circle Hanger Assembly, Channel (shown) <u>or</u>
		2	Circle Hanger Plate (not shown)
5	7300027	2	Poly Wear Pad
6	3600-0021	2	Circle Clamp - Top
7	3600-0081	1	5" Dia. Greaseable Center Pin
8	3600-0075	4	Mounting Shims
9	3600-A0010	2	Actuating Canister Assembly (Includes Items 10 through 13)
10	3600-0036	2	Shock Spring Cap Plate
11	7080266	2	Actuating Cylinder, 3 x 10 x 2
12	7070067	2	Actuating Cylinder Shock Spring
13	3600-A0009	2	Shock Spring Housing Assembly
14	3600-A0065	4	Keeper Pin
15	7080326	2	Reversing Cylinder, 4 x 11 x 2
16	3600-0111	2	Bushing, Rev. Cyl. to Hangerboard (5.97")
17	3600-0059	2	Bushing, Rev. Cyl. to Circle (6.56")
18	3600-0011	1	Hinge Shaft
19	3600-A0067 <u>or</u> 3600-A0066 <u>or</u> 3600-A0063	1	Moldboard Assembly 20", 1" thick x 10' <u>or</u>
		1	Moldboard Assembly 20", 1" thick x 11' <u>or</u>
		1	Moldboard Assembly 20", 1" thick x 12'
20	7150095 <u>and/or</u> 7150096	2 total	Cutting Edge, 1/2 x 6 x 72" <u>and/or</u>
			Cutting Edge, 1/2 x 6 x 60"
21	2100-0715	2	Actuating Cylinder Ear Pin

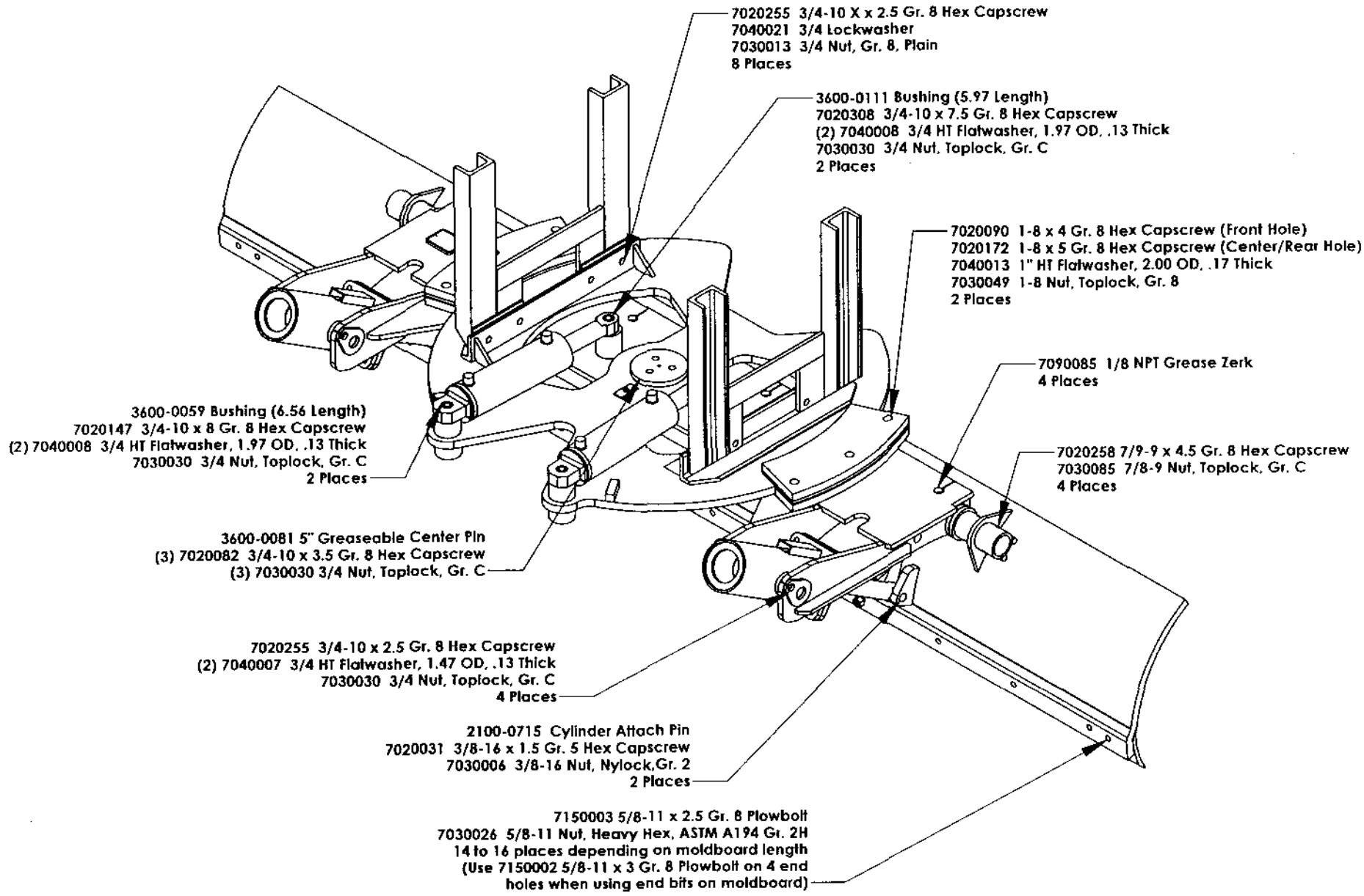


FIGURE 3 - UBS XH FASTENERS

TABLE 2 - COMPONENTS - HYDRAULIC REVERSING SYSTEM

Henke Part No.	Quantity	Description
7080326	2	Reversing Cylinder, 4 x 11 x 2"
7080308	1	DXV-10-1000psi Crossover Relief Valve (Factory Preset)
7110405	2	Hydraulic Hose Assy., 1/2 2-wire x 38", -8 JIC F e/e
7090257	2	Elbow, 90°, -08 JIC F to -8 ORB Adj. M
7090385	2	Tee, -08 JIC M, -8 ORB Adj. M Branch
7090009	2	Cap Nut, -08 JIC M
7090428	1	Hose Clamp Pair, Polypropylene
7090429	1	Hose Clamp Cover Plate
7020277	1	Bolt, 5/16-18 x 1.75", Zinc Plated

TABLE 3 - COMPONENTS - HYDRAULIC ACTUATING SYSTEM

Henke Part No.	Quantity	Description
7080266	2	Actuating Cylinder, 3 x 10 x 2"
7080267	1	JL-10-500psi Downpressure Relief Valve (Factory Preset)
7110406	2	Hydraulic Hose Assy., 3/8 1-wire x 67", -6 JIC F e/e
7110407	2	Hydraulic Hose Assy., 3/8 1-wire x 50.5", -6 JIC F e/e
7090276	4	Adapter, -06 NPT Male to -06 JIC Male-
7090379	2	Tee, -06 JIC M, -6 JIC M Bulkhead Branch, with locknut
7090380	2	Cap Nut, -06 JIC
7090416	2	Hose Clamp Pair, Polypropylene
7090417	2	Hose Clamp Cover Plate
7020011	2	Hex Capscrew, 5/16-18 x 1.25 Gr. 2 Zinc Plated (for hose clamps)
7090447	2	Clamp, 7/8" ID, Vinyl-Coated Steel, Bolt-On
7210016	4	Cable Tie, .30 x 8", Nylon, UV Back
	2	Nylon Sleeve, Protec NHS-090, Cut to 24" Length

TABLE 4 - UNASSEMBLED PARTS PACKED SEPARATELY

Henke Part No.	Quantity	Description
3600-0068	2	Stop Block
7080424	1	DXV-10-1000psi Crossover Relief Valve (Factory Preset)
7080338	1	JL-10-500psi Downpressure Relief Valve (Factory Preset)
7020255	8	Hex Capscrew, 3/4-10 x 2.5, Grade 8
7030030	8	Toplock Nut, 3/4-10
7040007	16	Flatwashwer, 3/4

Henke Standard Warranty Policy

Henke Manufacturing Corporation(HMC) warrants its products against defects in material and workmanship for a period of 12 months from date of delivery.

HMC, at its option will repair or replace any parts or components found to be defective in materials or workmanship.

Defects will be determined through photos provided by dealer or user, or through physical inspection of returned parts. Parts are to be returned freight prepaid when requested to HMC, labeled with a returned goods authorization number.

Authorization for warranty repair will be faxed to the reporting dealer, and will include labor hours that HMC agrees to credit the dealer, and the Return Goods Authorization Number, if applicable. Credit amounts for agreed labor hours will not exceed 70% of dealer shop selling rate. Mileage, travel time, overtime, or any incidental costs will not be included in warranty consideration. Credits will apply to current or future business with HMC.

This warranty does not include normal wear items such as cutting edges, wear guards, scarifier teeth, etc. Repairs required as a result of misapplication, accidental damage, improper maintenance, improper installation, or negligence are also not covered by warranty.

HMC warranty for any purchased components, such as hydraulic cylinders will be superceded by, and equal to the component manufacturer warranty.

SELLER IS NOT, UNDER ANY CIRCUMSTANCE, LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES. SELLER EXPRESSLY DISCLAIMS AND EXCLUDES ALL IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

DEALER WARRANTY PROCEDURE

For units delivered within the past 12 months, report any warranty problems needing repair to our Product support department. 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 Av
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 between the hours of **8:00 AM and 5:00 PM**, Central time, Monday through Friday. **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.