

SAFETY FIRST



FARM AND INDUSTRIAL EQUIPMENT INSTITUTE SAFETY ALERT SYMBOL.

THIS SYMBOL IS USED PRECEDING ALL CAUTION (A GENERAL SAFETY REMINDER), WARNING (DENOTES A POTENTIAL HAZARD) AND DANGER (DENOTES A POTENTIAL INJURY) NOTICES!

Most farm accidents, like industrial, home and highway accidents, are caused by the failure of some individuals to observe simple and fundamental safety rules or precautions. For this reason farm accidents, just as other types of accidents, can be prevented by recognizing the causes of accidents and doing something about them before an accident occurs.

Regardless of the care used in the design and construction of farm equipment, there are many points that cannot be completely safeguarded without interfering with accessibility and efficient operation.

A careful operator is the best insurance against an accident.

The complete observance of one simple rule would prevent many thousand serious injuries each year. That rule is "**NEVER ATTEMPT TO CLEAN, OIL OR ADJUST A MACHINE WHILE IN MOTION.**"

NATIONAL SAFETY COUNCIL

BEFORE ATTEMPTING TO OPERATE YOUR NEW MIXER FEEDER BE SURE TO READ THIS OWNERS MANUAL AND FAMILIARIZE YOURSELF WITH THE MACHINE!! OBSERVE THE FOLLOWING PRECAUTIONS FOR SAFE OPERATION OF THIS MACHINE!!

SAFETY TIPS



Keep Hands, Feet and Clothing away from PTO Shaft!

DO NOT climb on or enter machine while in operation

DO NOT make high speed maneuvers with the machine

Disengage PTO and remove key before servicing

Keep ALL Shields in place

DO NOT allow riders on outside of vehicle

DO NOT attempt to clean, oil or adjust machine while in motion

DO NOT exceed 1000 PTO speed on trailer mounted units

Properly ground all electrical Stationary applications.

INTRODUCTION

Congratulations on your purchase of a Mohrlang Manure Spreader. The Mohrlang Spreader is the most advanced and durable manure spreader on the market. With proper maintenance and care the Mohrlang Spreader will give you many tons of trouble free operation.

BEFORE BEGINNING OPERATION, PLEASE READ AND UNDERSTAND THIS INSTRUCTION MANUAL.

REPAIR PARTS

To make sure the proper parts are ordered, refer to exploded drawing in the back of this manual. When ordering parts please give serial number of the spreader and name of the part ordered.

Record information pertaining to your spreader below.

Dealer _____
Address _____

Telephone (_____) _____
Model _____
Serial # _____
Special Notes _____

GENERAL SPECIFICATION

WIDTH:

Inside Box.....	84"
Overall.....	96"

LENGTH:

XHD-14.....	190"
XHD-15.....	202"
XHD-17.....	226"
XHD-18.....	238"
XHD-19.....	250"
XHD-20.....	262"
XHD-21.....	274"
XHD-22.....	286"

DEPTH:.....	38"
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HEIGHT:

Spreader Only (Standard Head Board).....	82"
(Low Curve Head Board).....	73"
(High Curve Head Board).....	77"
(Trailer Head Board w/o Slop Gate).....	62"
(Trailer w/Slop Gate).....	72"
(Trailer 3 Beater).....	69"

CAPACITY:

XHD-14.....	420 c.f. 15.5 c. Yd.
XHD-15.....	450 c.f. 16.7 c. Yd.
XHD-17.....	510 c.f. 18.8 c. Yd.
XHD-18.....	540 c.f. 20.0 c. Yd.
XHD-19.....	570 c.f. 21.1 c. Yd.
XHD-20.....	600 c.f. 22.2 c. Yd.
XHD-21.....	630 c.f. 23.3 c. Yd.
XHD-22.....	660 c.f. 24.4 c. Yd.

WEIGHT:

XHD-14.....	6500 lb.
XHD-15.....	6800 lb.
XHD-17.....	7100 lb.
XHD-18.....	7500 lb.
XHD-19.....	7800 lb.
XHD-20.....	8200 lb.
XHD-21.....	8500 lb.
XHD-22.....	8900 lb.

FLOOR:.....	10 Gauge Steel
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SIDE:	10 Gauge Steel
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FRONT:.....10 Gauge Steel

BEARINGS:.....All bearings relubricable

DRIVES:.....~~High Speed Reduction in Precision Gear Boxes~~
Roller Chain and Hardened Sprockets.

TRUCK SPECIFICATIONS

XHD-14 & 15:

Minimum GVWR.....30,000 lb.
 Rear Axle.....21,000 lb.
 Front Axle.....12,000 lb.
 Cab to Axle.....120" CA
 Minimum Engine.....210 hp.
 Transmission.....Allison MT-653, Spicer CM-5252A
 Tires.....10:00x20 12 Ply

XHD-17 THRU 22:

Minimum GVWR.....60,000 lb.
 Rear Axle.....38,000 lb.
 Front Axle.....12,000 lb.
 Cab to Trunnion (XHD-17).....120" CT
 (XHD-18).....130" CT
 (XHD-19).....136" CT
 (XHD-20).....144" CT
 (XHD-21).....150" CT
 (XHD-22).....156" CT
 Minimum Engine.....250 hp.
 Transmission.....RTO 9513
 Tires.....10:00x20 12 Ply

OPTIONAL TRUCK EQUIPMENT FOR ALL MANURE SPREADERS

Power Steering, Double Frame, Dual Element Air Cleaner, Air Pre-Cleaner, Mud & Snow Tires, Transmission Temperature Gauge (Allison Only), Individual Seats, Disc Wheels, Air Cleaner Restriction Gauge.

		MODEL:							
REF.	DIMENSION DESCRIPTION	XHD-14	XHD-15	XHD-17	XHD-18	XHD-19	XHD-20	XHD-21	XHD-22
A	CAB-BOX CLEARANCE	4"	4"	4"	4"	4"	4"	4"	4"
B	SPREADER LENGTH	190"	202"	226"	238"	250"	262"	274"	286"
C	CAB-AXLE LENGTH	108" CA	120" CA	120" CT	130" CT	138" CT	144" CT	150" CT	156" CT
D	FRAME HEIGHT	40"	40"	40"	40"	40"	40"	40"	40"
E	OVER ALL HEIGHT	122"	122"	122"	122"	122"	122"	122"	122"
F	SIDE HEIGHT	93"	93"	93"	93"	93"	93"	93"	93"

REF.	DIMENSION DESCRIPTION	XHD-14 THRU 22
A	INSIDE BOX WIDE	84"
B	HEIGHT (W/SLOP GATE)	112"
C	HEIGHT (3 BEATER)	109"
D	OVER ALL WIDTH	96"

TRAILER SPECIFICATIONS

WEIGHT:

(Trailer Only) (Single Axle).....3,200 lb.
(Trailer Only) (Tandem Axle).....4,000 lb.

AXLE:

(Single Axle).....23,000 lb. W/Sealco Self Oiling Hubs
(Tandem Axle).....46,000 lb. W/Sealco Self Oiling Hubs

SUSPENSION:

(Single Axle).....Hutch Single Axle W/Multi-Leaf Springs
(Tandem Axle).....Hutch Tandem Axle W/Multi-Leaf Springs

TIRES:.....40x14.5x19 Floatation

PTO SPEED REQUIREMENT:.....1,000 RPM Only

HORSEPOWER REQUIREMENT (Minimum):

XHD-14 & 15.....80 hp.
XHD-17 THRU 22.....100 hp.

MODEL:

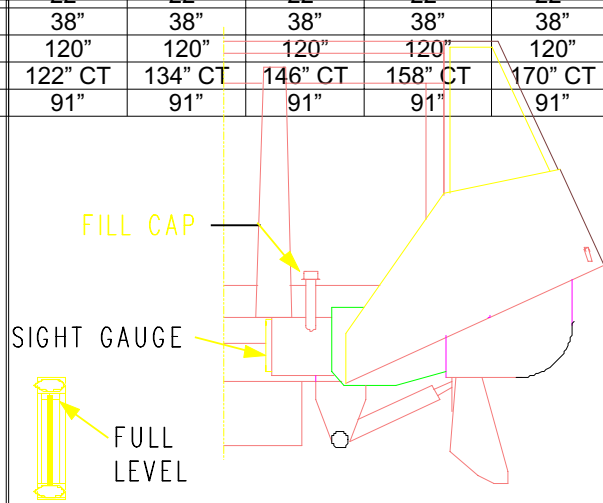
REF.	DIMENSION DESCRIPTION	XHD-14	XHD-15	XHD-17	XHD-18	XHD-19	XHD-20	XHD-21	XHD-22
A	TONGUE LENGTH	65"	65"	65"	65"	65"	65"	65"	65"
B	SPREADER LENGTH	190"	202"	226"	238"	250"	262"	274"	286"
C	TONGUE HEIGHT	22"	22"	22"	22"	22"	22"	22"	22"
D	FRONT HEIGHT	38"	38"	38"	38"	38"	38"	38"	38"
E	OVERALL HEIGHT	120"	120"	120"	120"	120"	120"	120"	120"
F	FRONT-AXLE LENGTH	74" CA	86" CA	110" CT	122" CT	134" CT	146" CT	158" CT	170" CT
G	SIDE HEIGHT	91"	91"	91"	91"	91"	91"	91"	91"

Take note of any build up of manure between chain and sides. Also keep beaters clean and free of wire and string.

Make a visual inspection of the unit to see that all guards are tight and in the correct position for operation.

Check for leaks in hoses and cylinders.

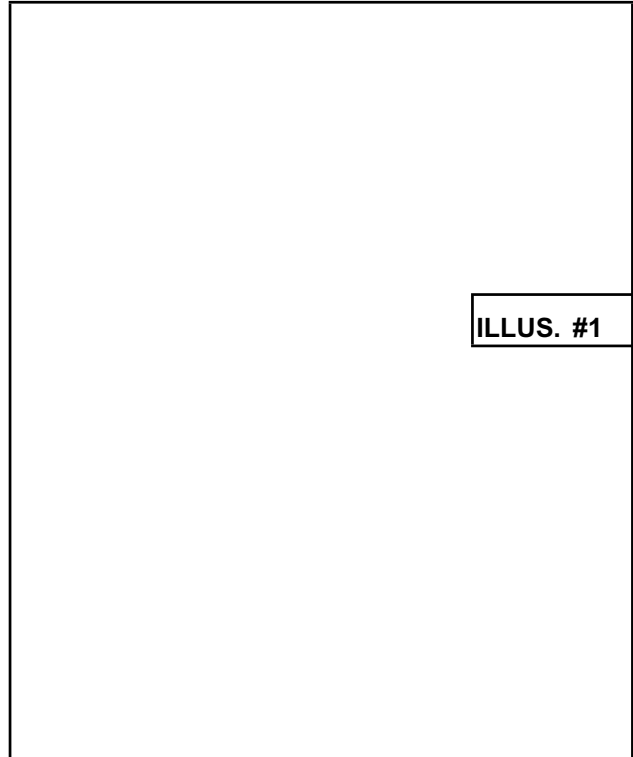
Inspect beater teeth for excessive wear which affects spreading action and horsepower



REF.	DIMENSION DESCRIPTION	XHD-14 THRU 22
A	INSIDE BOX WIDE	84"
B	HEIGHT (W/SLOP GATE)	110"
C	OVER ALL WIDTH	96"
D	HEIGHT (3 BEATER)	107"

PRE-OPERATION INSTRUCTION

Because of transmission and PTO variations, operator will have to determine, setting for truck to give proper application rate. Once the proper application rate is determined, record and keep with truck.



OPERATION

1. Make all pre-operation checks.
2. Load spreader.
3. Position truck in the desired location to be unloaded.

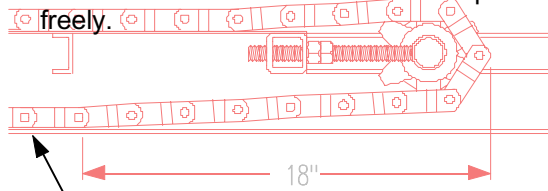
DISTRIBUTION RATES:

4. Set chain speed lever to "0" or "OFF" (lever in cab marked "BED CHAIN").
5. Engage truck PTO.
6. Lower tail pan by pulling pan lever (center lever in cab marked "PAN").

NOTE: The tail pan will not completely lower until PTO is engaged.

IMPORTANT: On spreaders equipped with a slop gate, be sure the gate is in raised position before operating bed chain.

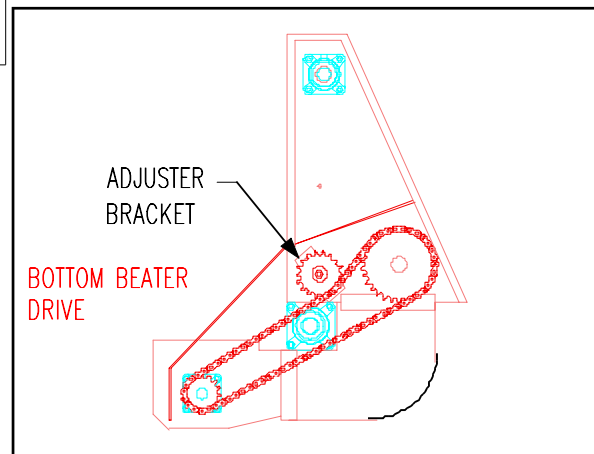
7. Back truck in position with beaters running and bed chain in the "OFF" position. This allows the beaters to clean and operate freely.



8. Start truck forward and at the same time move bed chain lever forward. Move lever to the desired number on dial for tonnage required. The dial is numbered off through 10. Position 10 will give maximum bed chain travel and application rate.

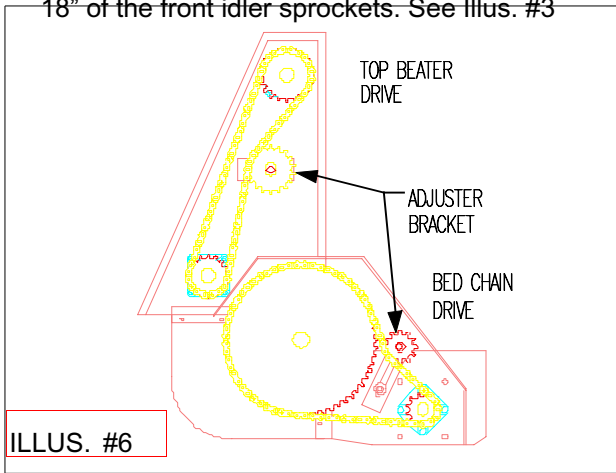
ILLUS. # 3

ILLUS.#2



GENERAL MAINTENANCE

Check bed chain tightness and adjust as required. Adjustment is necessary when bed chain touches the return guides within 18" of the front idler sprockets. See Illus. #3



Check to see that bed chain is pulling straight. Adjust by using adjusting screws shown in Illus. #4.

Tighten all loose nuts and bolts.

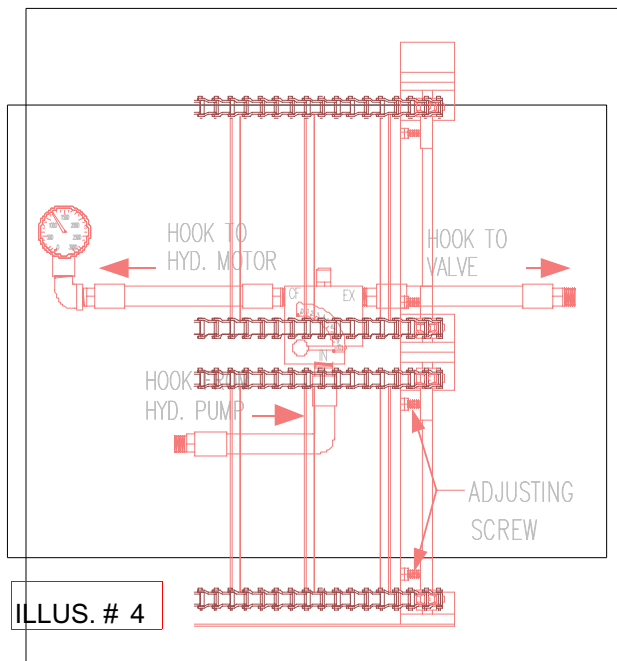
Check hydraulic fluid level.

Check hydraulic hoses and connections for oil leaks.

Check to see that all guards are tight and fitting properly.

Check tightness of drive chains. Adjust as required using adjusting brackets. See Illus. # 5 & 6.

Use adjusting screw located on front sprocket shaft for adjusting chain tightness. See illus. #4



ILLUS. # 5

Operate truck at an RPM normally used while spreading material.

Check pressure at gauge. If pressure is not within a range of 1200 psi to 1500 psi, adjustment is necessary.

WARNING: DO NOT ATTEMPT TO ADJUST PRESSURE WITH A GAUGE LESS THAN 3000 PSI CAPACITY. IMPROPER ADJUSTMENT OF PRESSURE WILL CAUSE DAMAGE TO PUMP. FOLLOW ONLY THESE PROCEDURES SET FORTH IN THIS MANUAL.

Remove cap on JL-75. A pressure adjustment set screw is located under this cap. See Illus. # 8

Check hydraulic pressure and adjust if necessary. Pressure should range between 1200 psi to 1500 psi. For adjustment use the following procedures:

Locate hose running from flow control (CF) to hydraulic motor. See drawings on Page # 39 & 40.

Disconnect this from motor only, and place a gauge of at least 3000 psi capacity into the end of hose. See Illus. # 7.

Turn set screw while observing gauge and raise or lower the pressure within the range of 1200 psi to 1500 psi.

When a pressure of 1200 psi to 1500 psi is reached, stop truck engine, replace cap on flow control valve, remove gauge from hose end and reconnect hose to hydraulic motor. **ILLUS. #8**

IMPORTANT: Do not attempt to exceed 1500 psi. Bed chain will move recommended loads at or below this setting. If load does not move, check for obstructions or broken chain.

Check chain and slats for possible separations. Weld slats where breaks occur. Lubricate as shown in the lubrication schedule.

CAUTION

Mohrlang Mfg. furnishes a **ILLUS. #7** 24 tooth sprocket with the silage hardware kit. This increases the floor chain speed on lightweight material.

Under No Circumstance is the 24 tooth sprocket to be used in hauling anything but silage. **Do Not** attempt to adjust by-pass pressure above 1500 psi or all warranties are void.

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	TEST METHOD	REMEDY
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Box Won't Operate	<ol style="list-style-type: none"> 1. Truck PTO not engaged 2. Truck PTO inoperable 	<ol style="list-style-type: none"> 1. Visual Inspection 2. Visual Inspection 	<ol style="list-style-type: none"> 1. Engage PTO. 2. Repair or replace PTO.
Bed Chain Won't Move	<ol style="list-style-type: none"> 1. Bed Chain froze down in cold weather or wedged. 2. Excessive build up on return rails. 3. Bearing in final drive worn. 4. End play in 50:1 gear box. 5. Hydraulic system faulty. 	<ol style="list-style-type: none"> 1. Visual Inspection 2. Visual Inspection 3. Visual Inspection 4. Visual Inspection 5. Check for obstructions in hydraulic lines, operation of pump and motor, hydraulic pressure. 	<ol style="list-style-type: none"> 1. Free bed chain. 2. Remove excess material. 3. Replace bearing. 4. Remove shims. 5. Clear hydraulic lines, repair or replace pump or motor, adjust pressure.
Excessive Power Requirement on Normal Loads.	<ol style="list-style-type: none"> 1. Beaters plugged 2. Beater tips worn down. 3. Bed chain feeding too fast. 4. Worn bearing in gear drives. 	<ol style="list-style-type: none"> 1. Visual Inspection 2. Visual Inspection 3. Visual Inspection 4. Check gear drives. 	<ol style="list-style-type: none"> 1. Remove jam. 2. Replace beater tips 3. Slow bed chain. 4. Replace bearing.
Excessive Vibration and Unusual Noise.	<ol style="list-style-type: none"> 1. PTO bolts loose 2. U-joint out or U-joint are out of alignment 3. Bent Drive line 4. Worn drive line bearing 5. Bent beater tube 	<ol style="list-style-type: none"> 1. Visual Inspection 2. Visual Inspection 3. Visual Inspection 4. Visual Inspection 5. Visual Inspection 	<ol style="list-style-type: none"> 1. Tighten bolts. 2. Realign U-joints. See drawing, Page. # 38 3. Straightening or replace drive line 4. Replace bearing 5. Straightening beater tube

LUBRICATION SCHEDULE

ITEM	LUBRICANT	INTERVAL
U-Joint Drive Lines	Standard Gun Grease	Daily or every 12 hours of operation. One or two pump of hand grease gun.
All Bearings	Standard Gun Grease	Every 60 hours of operation.
Gear Box	SAE 90 Gear Lube	Check Periodically.

Hydraulic Fluid	10 Weight Non-Detergent Hydraulic Oil (Cold Area) 20 Weight Non-Detergent Hydraulic Oil (Warm Area)	Check Periodically.
Hydraulic Filter	Change Element Use Filter - Gresen No. K23019	Every 150 - 200 Hours of operation.
Beater Chain	Used Motor Oil	Brush lightly every 10 hours of operation.
Bed Chain	Used Motor Oil	Brush lighty every 20 hours of operation.