

# WAKO XT Applicator



Owner / Operator's Manual



31', 34', 37', 41' or 51'

WAKO, LLC 5606 N. 81 Hwy.

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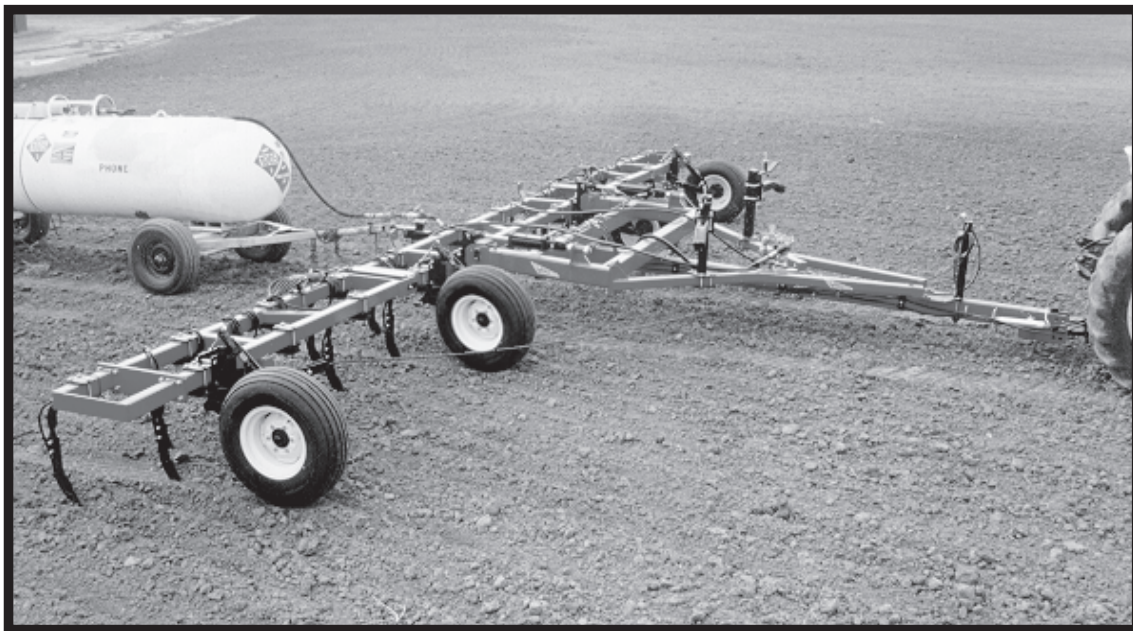
# Congratulations!

You have just purchased the most up to date and reliable ANHYDROUS APPLICATOR made today. We at WAKO not only strive to build a machine that is EFFICIENT and RELIABLE but one that is EASY TO OPERATE and will give you many years of dependable service.

Today's farmer is interested in covering acres quickly by using larger tractors under a variety of tough conditions. WAKO has designed an anhydrous ammonia applicator to meet these needs.

The XT Applicator has a heavy walled 4"x 6" main frame, a rugged 3"x 4" tool bar frame, and breakaway hinges that prevent major frame damage if the wing hits an obstruction. Other outstanding features of the XT include the powerful 1" x 2" shanks and our "top of the line" NH<sub>3</sub> knife.

The XT also has a dual hydraulic ram lift package as well as heavy duty gauge wheels to control the depth of application. Whether you're a farmer or dealer, the XT will give you a long acre life with very little maintenance .



Even though we try to build a completely trouble-free machine, it's impossible to do for a number of reasons. However, by observing a few maintenance and servicing procedures you will have a lot less trouble.

## Set up

Your machine was assembled at the WAKO PLANT and pre-set for most average conditions, but...

### **BEFORE YOU USE**

Go over the machine carefully for a complete “pre-flight checkup”. WAKO has a very thorough QUALITY CONTROL MANUFACTURING AND SET UP PLAN in effect, but we are still dealing with the human factor and some mistakes can and will be made.

Continue to check the machine carefully for the first few hours of use, most problems will appear by then.

This machine was pre-set for a hitch height of approximately \_\_\_\_\_ inches.

This machine was pre-set for an operating depth of approximately \_\_\_\_\_ inches.

# FOLDING THE XT APPLICATOR TOOLBAR

*Wako has one of the easiest and simplest mechanical or hydraulic folding systems on the market.*

Figure 1

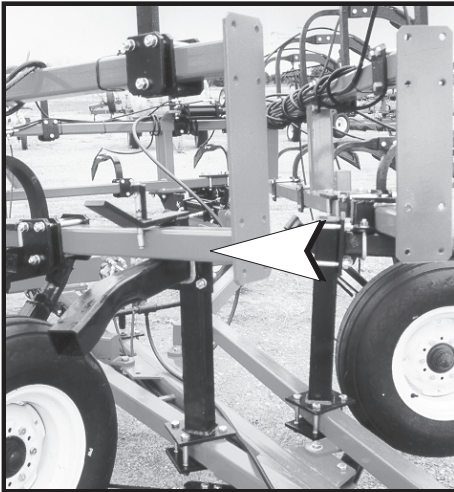


Figure 2

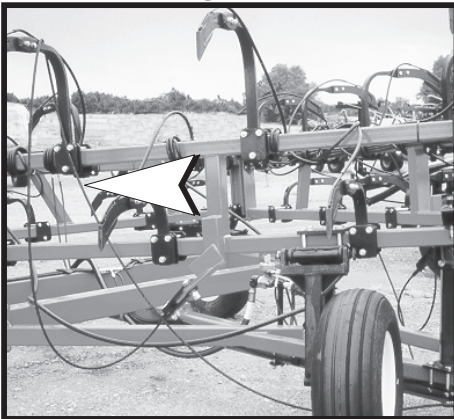
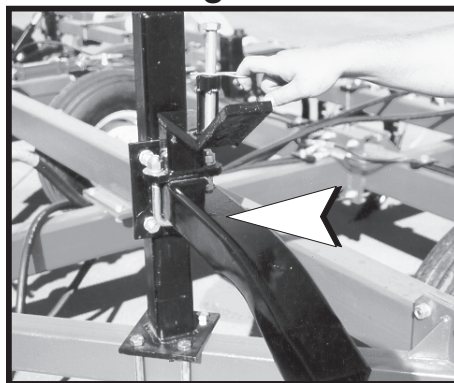


Figure 3



## TO FOLD THE HYDRAULIC ASSIST:

First , raise the toolbar completely out of the ground (all the way to the cylinder stop). This will leave each wing free standing on its own gauge wheel . Then the operator is to push the wing forward toward the center. After a few feet the wing will start raising itself off the ground, as the wing nears the wing stand it should reach the exact height to slide into the receiver of the wing stand. ( SEE FIG. 1) Be sure to pin the wing into the receiver with the attached pin . When the first wing is secure, repeat the procedure for the next wing.

## BRACE CABLES:

On both the hydraulic and manual fold, it is necessary that the cables are picked up and hung so they do not drag during transport ( SEE FIG. 2).

### **\*\* CAUTION \*\***

**Cables must be free from holder before unfolding the wings!**

## WING STAND AND RECEIVER:

If the receiver on the wing stand (SEE FIG. 3) does not receive the folded wing correctly, simply loosen the bolts on the receiver and slide it to the proper adjustment and retighten the bolts. It is imperative that the folded wing is in the stand and pinned while in transport. Aside from the sudden unfolding of the wings, the hinges of the machine were not designed to carry the weight of the folded wings.

### **\*\* CAUTION \*\***

**FAILURE TO PIN THE WINGS COULD CAUSE DAMAGE!**



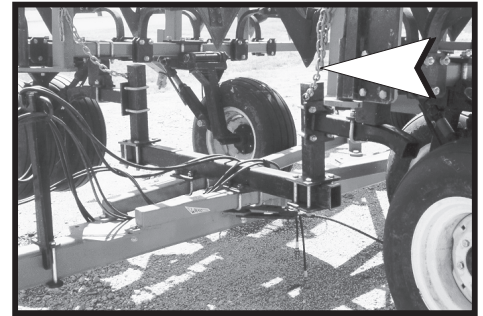
# FOLDING THE XT APPLICATOR TOOLBAR

Figure 4

## THE 51 FT. WING STAND:

The wing stand for the 51 ft. toolbar uses safety chains to keep the folded wing in position during transport.( SEE FIG. 4)

If the receiver on the wing stand does not receive the folded wing correctly, simply loosen the bolts on the receiver and slide it to the proper adjustment, then retighten the bolt.



# ADJUSTING THE XT WING FOLDING HEIGHT

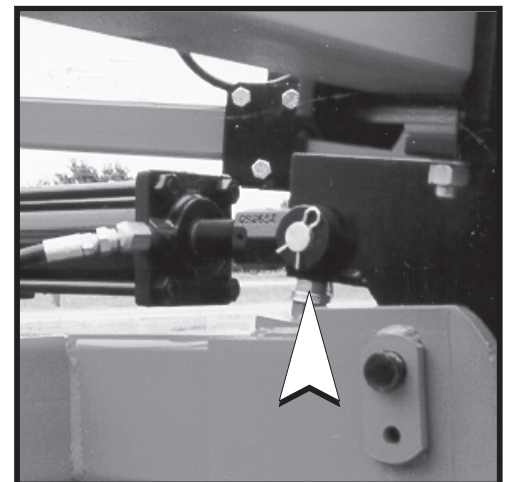
Figure 5

## TO UNFOLD THE HYDRAULIC ASSIST:

If excessive wear has occurred to the wing hinges it may become necessary to adjust the folding height of the wing. This is accomplished by adding shim washers to the adjustment bolts under the center knuckles. (SEE FIG. 5)

## CAUTION:

Using this adjustment can effect many different parts of the XT Applicator. It is recommended that you call Wako to get instructions on this procedure.



# LEVELING THE XT APPLICATOR TOOLBAR

## HOW TO CHECK THE LEVEL:

1. Probably, the best way to check whether the toolbar is running level is to stand off to the side while the machine is in operation and is passing by. ( SEE FIG.7)

## TO CORRECT ...(IF NOT LEVEL):

1. Do not make a practice of leveling the toolbar with the hydraulic cylinders. This can be very erratic and unsatisfactory over the long haul.
2. Each hydraulic lift has an adjusting screw just ahead of the cylinder for toolbar leveling. Lengthening the screw will tip the bar back. Shortening the screw will tip the bar forward. (SEE FIG. 8)
3. The easiest way to make a change in the level is to change the tongue height.

### NOTICE:

Changing the toolbar level, with the cylinder adjustment bolts, can change the folded wing height . You may have to change the wing stand receiver to a new position for the proper folding. ( SEE FIG. 9)

**\* \* \* ONCE THE MACHINE IS SET FOR YOUR TRADE AREA  
IT WILL SELDOM NEED CHANGED.**

Figure 8

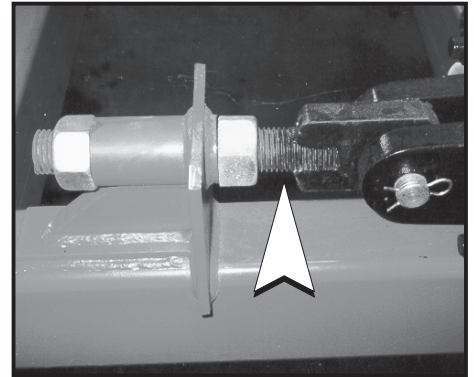
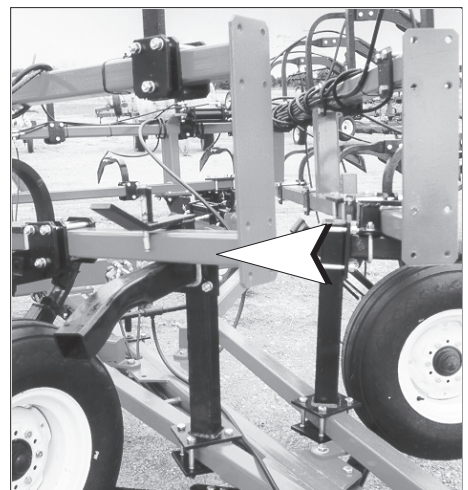


Figure 9



# UNFOLDING THE XT APPLICATOR TOOLBAR

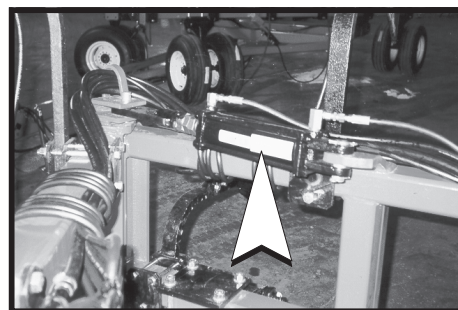
## TO UNFOLD THE NON-HYDRAULIC ASSIST:

First, make sure the brace cables are free to fold out with the wing. (SEE PAGE 3 FIG. 2). Then, unpin the secured wing. Position yourself at the end of the wing before it is pulled from the stand, so that in the event of a sudden move of the release weight, you will be free. It is better that the wing is swung gently into position.

## TO UNFOLD THE HYDRAULIC ASSIST:

Be sure that the wing is unpinned and that the cables are free to follow out the wing. All personnel should be clear before unfolding the toolbar. The fold cylinder (SEE FIG.6) must be extended to full length for proper wing flex.

Figure 6



*Hydraulic cylinder in folded position*

# LEVELING THE XT APPLICATOR TOOLBAR

*The level of your toolbar has been preset at the factory for average working conditions.*

## NOTICE:

Changing the toolbar level, with the cylinder adjustment bolts, can change the folded wing height. You may have to change the wing stand receiver to a new position for the proper folding and transport.

## LEVELING THE TOOLBAR:

It is very important that the toolbar operates at as near level as possible.

### \*\* FAILURE TO DO SO WILL CAUSE:

1. The back row to go in too deep if the bar is tipped back and the knives will “heel” ( EXCESSIVE WEAR ON THE HEEL).
2. The back row will not go in deep enough if the bar is tipped forward

Figure 7



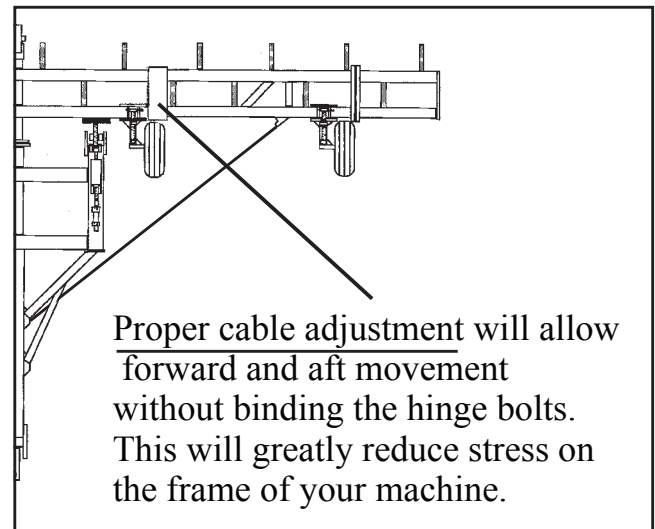
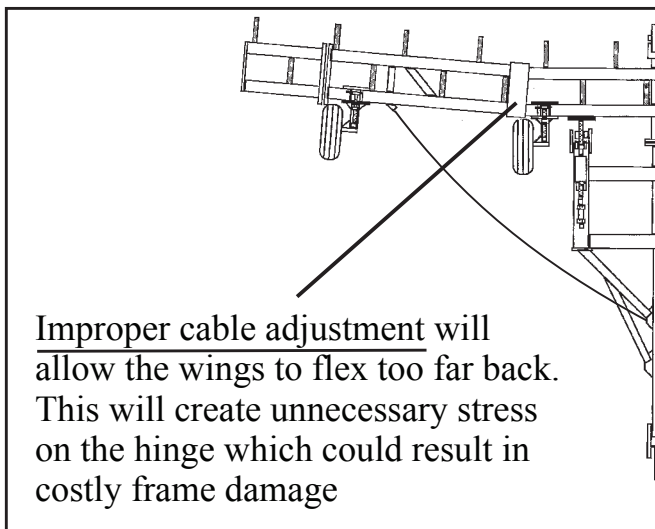
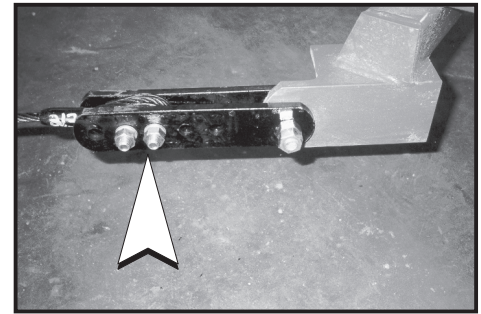
# Cables

Your brace cables were adjusted at the factory for proper tension and no further adjustment should be necessary for some time, however.....

## **\*\* CAUTION :**

There will eventually be cable "stretch", which will need to be adjusted out. Be sure not to adjust cables too tight or the wing will not flex up and down properly. The cable is in proper adjustment when the toolbar is straight during operation.

Figure 8

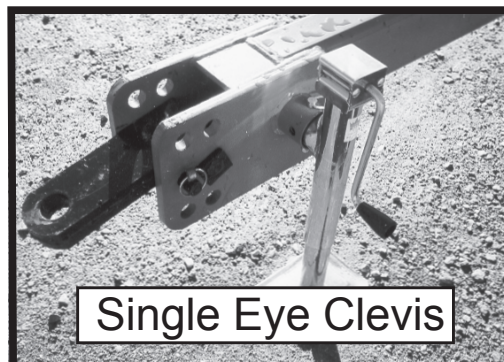
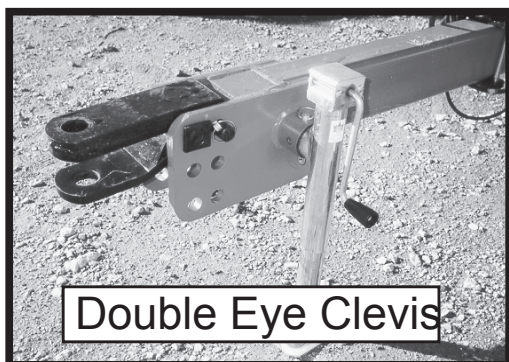


## **\*\* TO TIGHTEN CABLES:**

At each end of your our brace cables there are adjustment plates. To tighten your cables simply unbolt the plates and move the "eye" of the cable forward. Retighten bolts (SEE FIG. 8)



# Hitch Attachment



## **\*\*CAUTION:**

Care should be used when attaching an implement to a late model tractor with a double eye clevis on the tractor linkage. (See FIG.1) A double eye clevis should not be attached to another double eye clevis as this setup does not allow for proper movement between the equipment. (See FIG.2) This linkage puts undue stress on the implement tongue and ultimately will cause premature failure (breakage) of the implement tongue.

Figure 1

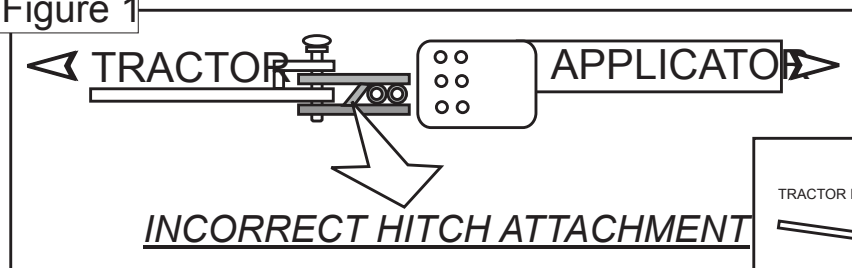
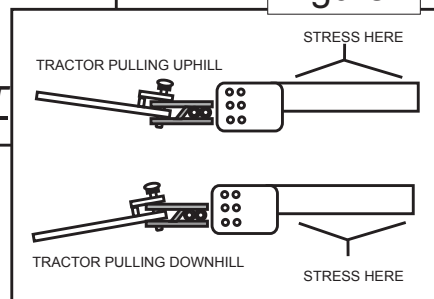
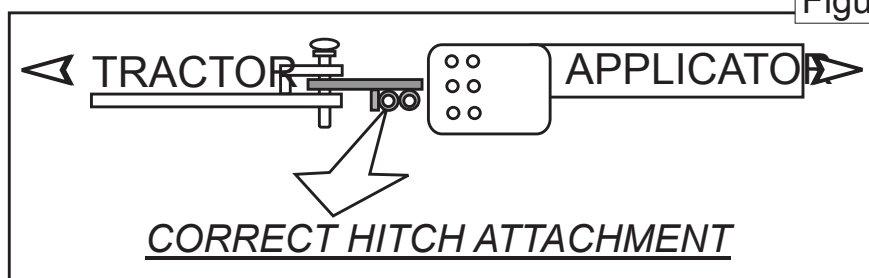


Figure 2



Late model tractors with a double eye clevis on the tractor linkage should only be connected to implements with single eye clevis as shown in FIG.3. This set up allows for proper movement between the equipment.

Figure 3





# SEALING

*REMEMBER-A MACHINE WITH NEW KNIVES HAS TO BECOME “SCOURED”.*

## **Some of the causes for poor sealing are:**

1. Excessive ground moisture. This will vary with different types of soil and changing temperatures. (freezing up)
2. Too dry and cloddy will allow anhydrous ammonia to escape.
3. Knife freezing up will cause a build up on the knife. This will not allow it to shed properly and the dirt will not be able to flow around the knife for good sealing.
4. Improper setting or leveling of the toolbar, one row of knives out.
5. Not enough penetration of knives.
6. Uneven ground, part of the knives in deep and others out of the ground.
7. Too slow of speed will sometimes cause poor sealing.

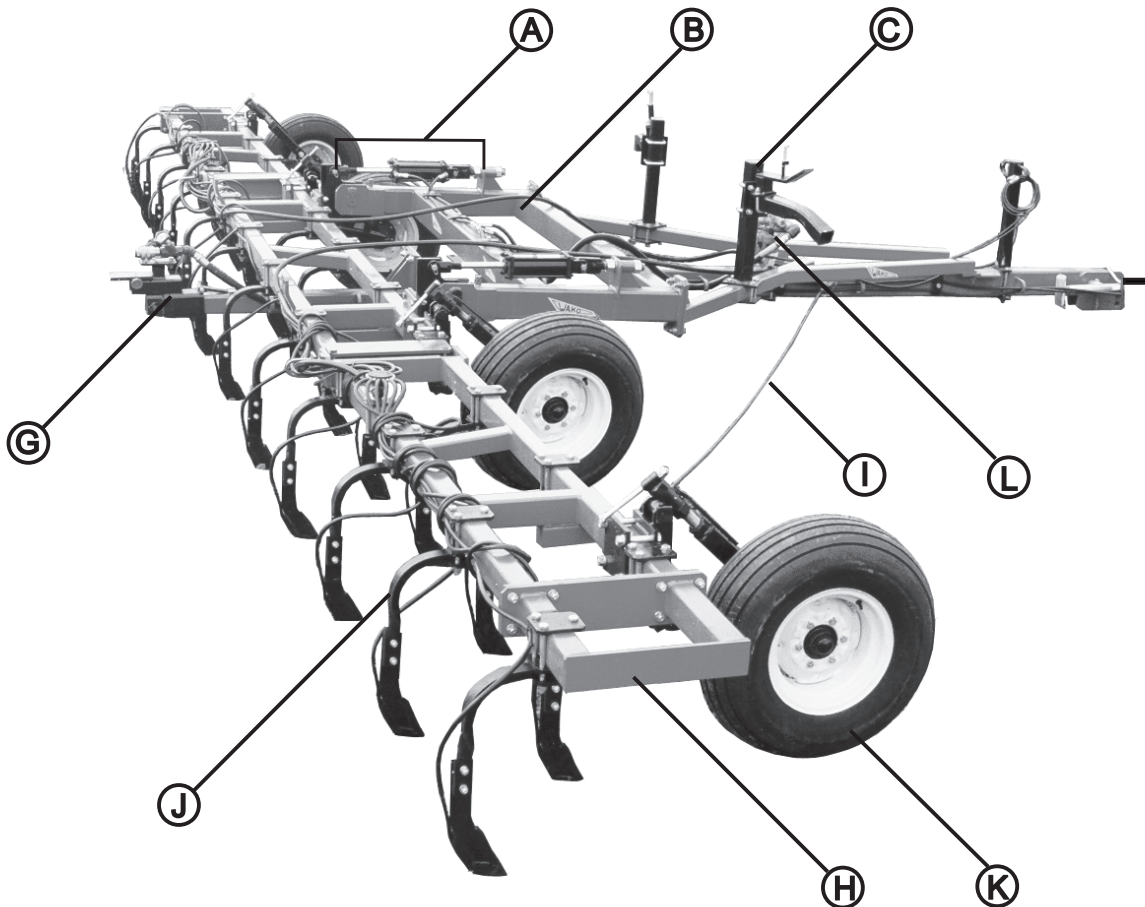
GOOD OPERATOR ADJUSTMENT CAN GREATLY IMPROVE SEALING CAPABILITY.

SOMETIMES THE CONDITIONS ARE **NOT** CONDUCTIVE TO APPLICATION **AT ALL.**

# MAINTENANCE

1. The WAKO XT APPLICATOR requires very little maintenance but it is a good practice to check the machine for excessive wear and possible damage on a regular basis. This could prevent a major repair job if caught in time.
2. Since this machine works in a very corrosive environment it is ver necessary that you thoroughly clean the entire machine before storing after each “season.”
3. After cleaning and before storing, apply oil to hinges and sliding parts to further stop the corrosive action.
4. Before each “season” check the machine thoroughly again, for possible corrosive damage, also check the wheel bearings to see if they need tightening or possible replacing.
5. CHECK THE :  
PUMPS, METERS, HOSE, TANK AND VALVES,  
REPAIR OR REPLACE AS NEEDED.  
  
(READ THE INDIVIDUAL MANUFACTURERS INSTRUCTIONS FOR DETAILS.)

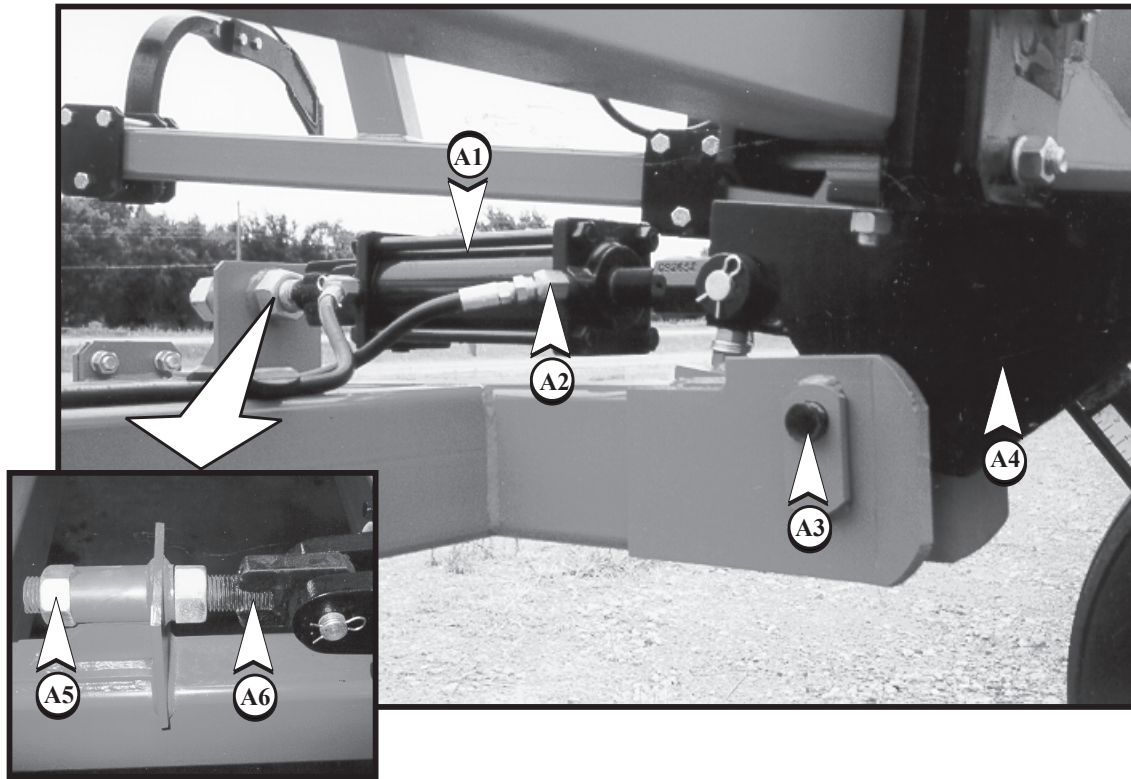
# OVERVIEW OF THE XT APPLICATOR'S MAJOR COMPONENTS



A Hydraulic Lift System  
B XT Trailer Frame  
C Wing Stand

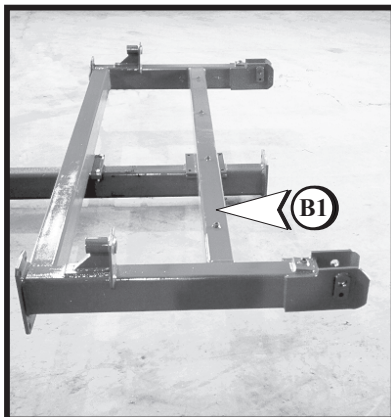
G Telescoping Hitch  
H XT Wings and Extensions  
I Brace Cable  
J Shank / Knife / Bracket  
K Gauge Wheel System  
L NH3 System

## A. Hydraulic Lift Sytem



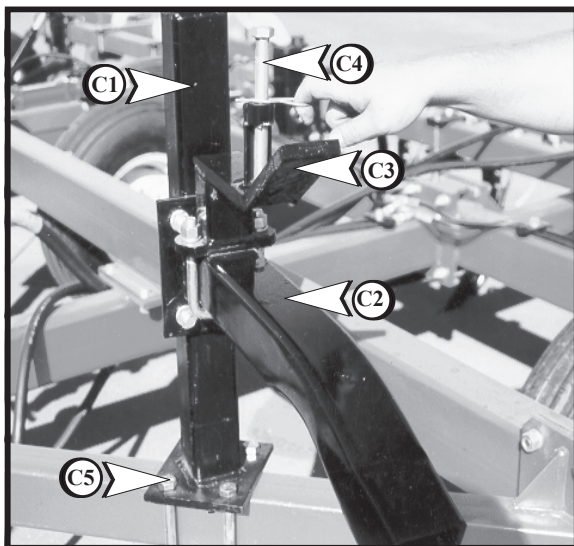
ITEM #	DESCRIPTION	WAKO NO.
A1.	3-1/2 X 8 HYD. CYLINDER 5 X 8 . CYLINDER (51 FT. ONLY)	PCYLION4X8 PCYLION312X8
A2.	HYDRAULIC FITTINGS	
A3.	1 3/16" X 5 1/2" PIN	Z0252-WSA
A4.	HYDRAULIC LIFT KNUCKLE	Z0059-WS
A5.	1 1/2" JAM NUT (NEED-2)	FNT112
A6.	HYDRAULIC ADJUSTMENT BOLT	Z0106-WS

## B. XT Trailer Frame



ITEM #	DESCRIPTION	WAKO NO.
B1.	XT TRAILER FRAME	

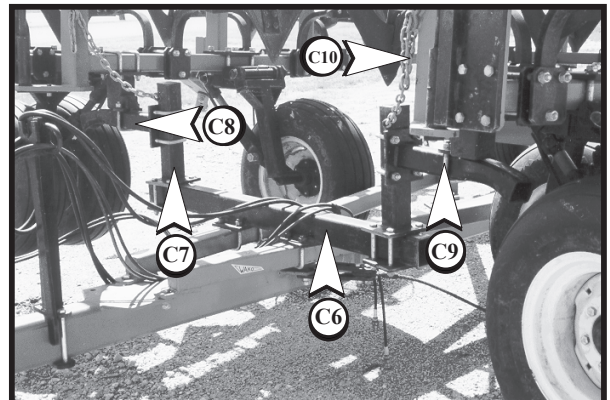
## C. Wing Stand (31' thru 41')



ITEM #	DESCRIPTION	WAKO NO.
	WING STAND / COMPLETE	Z0008-WS
C1.	WING STAND BASE / VERT. UPRIGHT BASE PLATE, REC. PLATE & BOLTS	Z0008-WSA
C2.	WING STAND RECIEVER BOTTOM HORZ. STEM, PLATE & U-BOLTS	Z0008-WSB
C3.	WING STAND RECIEVER TOP	Z0008-WSC
C4.	WING STAND PIN	Z0008G
C5.	HEX HEAD BOLT 5/8" X 8" LOCK WASHER 5/8" NUT 5/8"	FHC588 FLW58 FNT58

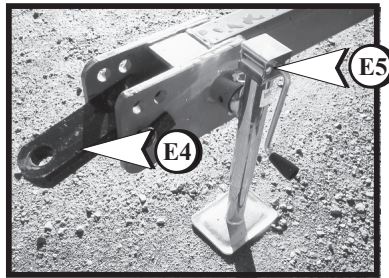
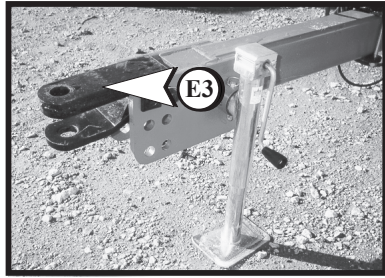
## Wing Stand (51' )

ITEM #	DESCRIPTION	WAKO NO.
C6.	51' WING STAND BOTTOM	
C7.	51' WING STAND UPRIGHT	
C8.	51' WING STAND RECEIVER	
C9.	51' WING STAND STOP	
C10.	SAFETY CHAIN	

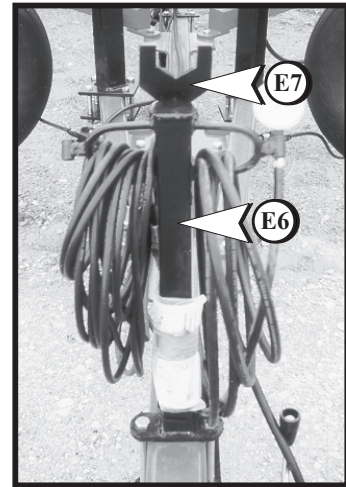




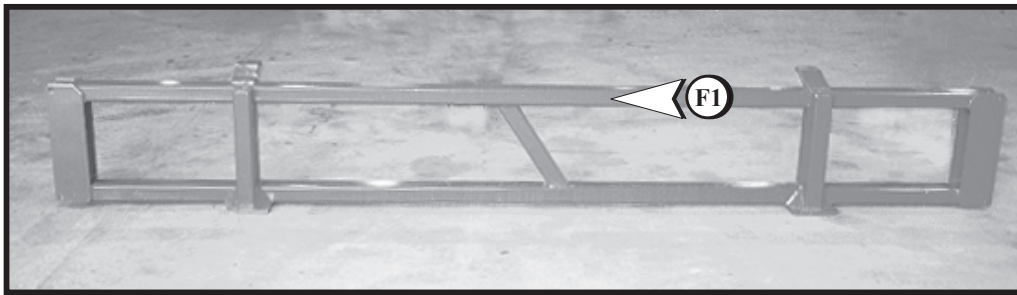
## Tongue Clevis



## Hose Holder

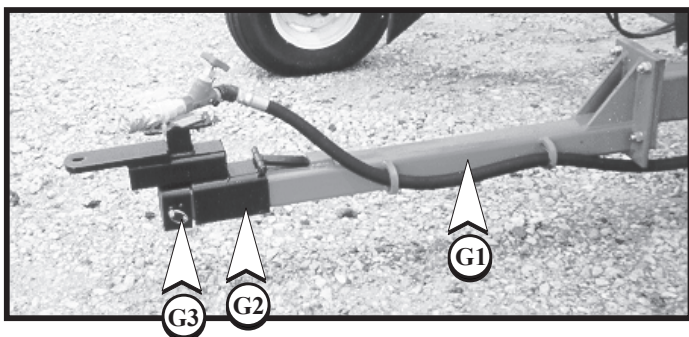


## F. XT Center Section



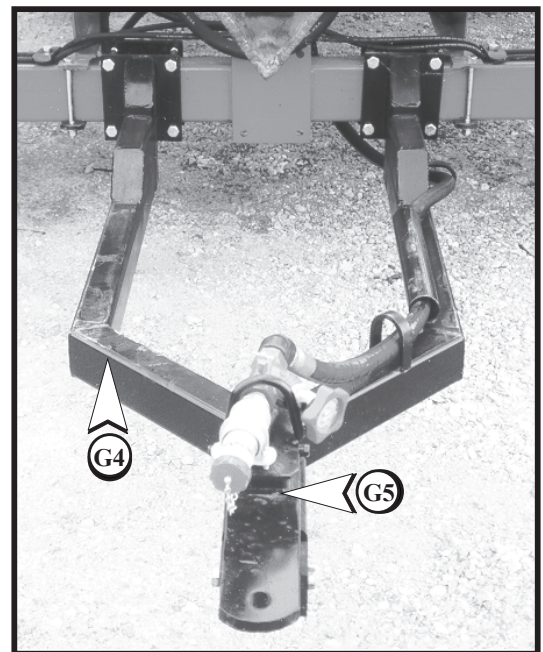
ITEM #	DESCRIPTION	WAKO NO.
F1	XT CENTER SECTION	Z0071-WS
NOT SHOWN	KNUCKLE ; CENTER TO WING	Z0070-WSB
	PIN F/KNUCKLE ; CENTER TO WING	Z0070-WSC

## G. Telescoping Hitch

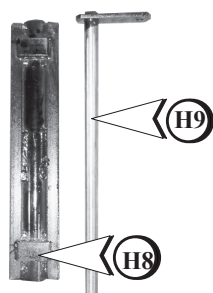
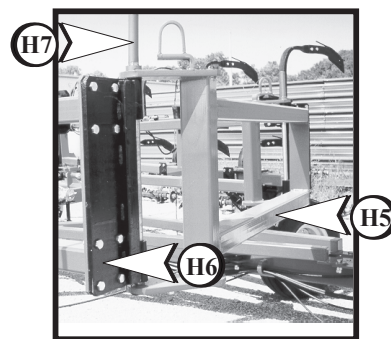
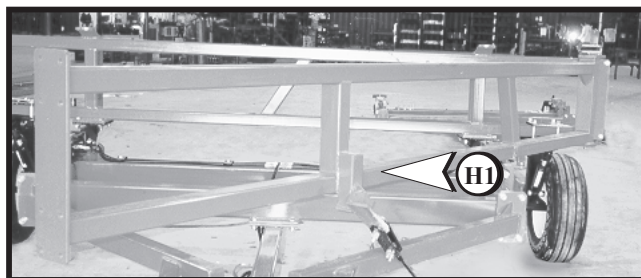


ITEM #	DESCRIPTION	WAKO NO.
G1.	TELE-HITCH STEM	
G2.	TELE-HITCH SLIDE	
G3.	TELE- HITCH END PLATES	
G4.	WISHBONE HITCH	
G5.	WISHBONE HITCH SLIDE	

## Wishbone Hitch

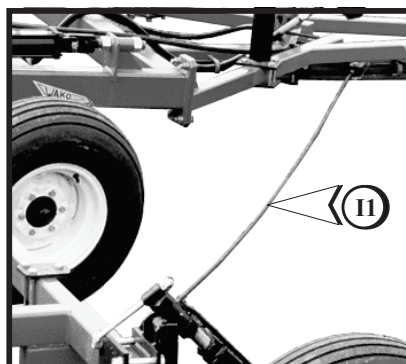
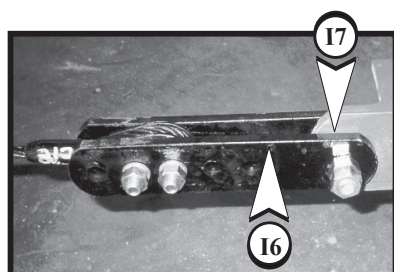


## H. XT Wings and Extensions



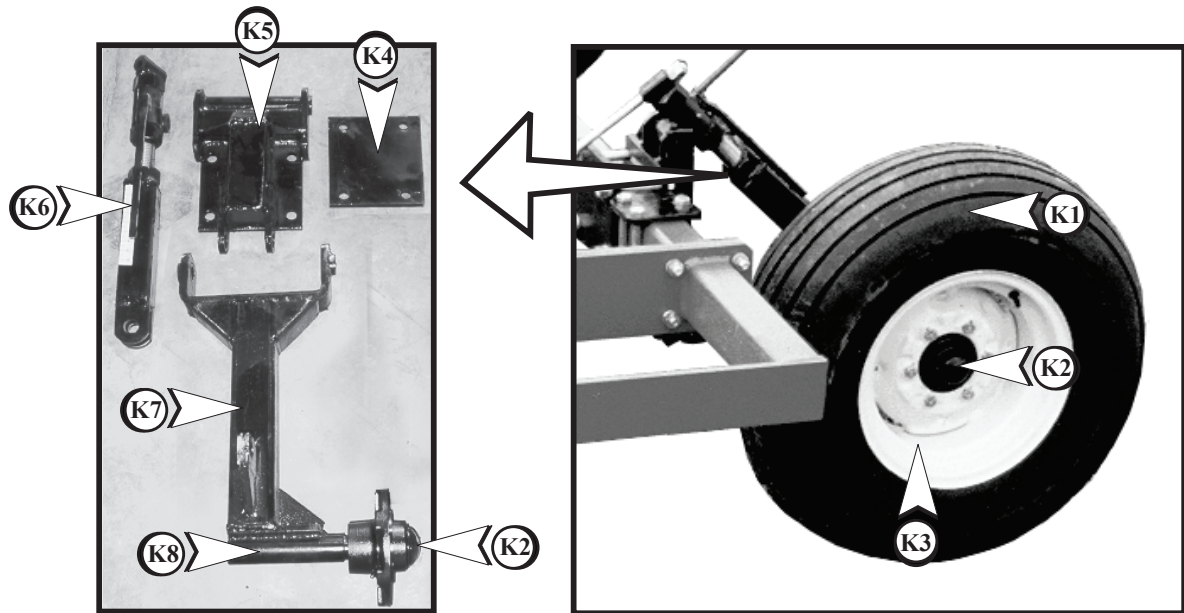
ITEM #	DESCRIPTION	WAKO NO.
H1.	XT WING 30'	Z0070-WSB Z0070-WSC
H3.	XT WING 41' THRU 51'	
H4.	WING EXTENSION TO MAKE 34'	
H5.	WING EXTENSION TO MAKE 37'	
H6.	WING EXTENSION TO MAKE 51'	
H7.	WING EXTENSION TO MAKE 51'	
H8.	WING KNUCKLE	
H9.	WING KNUCKLE PIN	

## I. Brace Cables



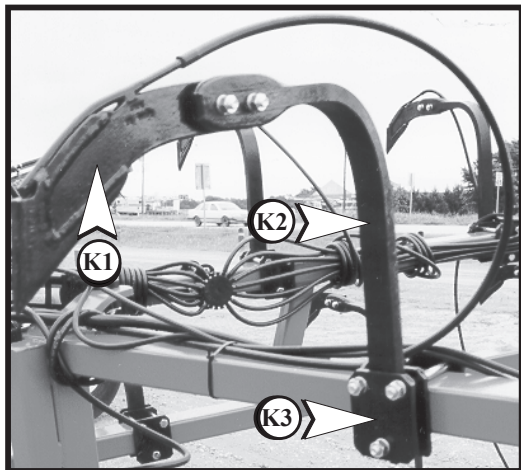
ITEM #	DESCRIPTION	WAKO NO.
I1	31 FT. CABLE	ADL000X30
I2	34 FT. CABLE	ADL000X30
I3	37 FT. CABLE	ADL000X30
I4	41 FT. CABLE	ADL000X42
I5	51 FT. CABLE	ADL000X51
I6	CABLE ADJUSTMENT PLATES (EACH) 8 - REQUIRED	Z0088A
I7	BUSHING / NOT SHOWN	Z0088B

## J. Gauge Wheel System



ITEM #	DESCRIPTION	WAKO NO.
K1	11L X 15" 6 PLY TIRES	WTI11L15
K2	709 HUB ASSEMBLY INCLUDES: RACES (INNER) RACES ( OUTER) BEARING (INNER) BEARING (OUTER) SEAL DUST CAP WASHER PIN	WHB611N WHB611E WHB611G WHB611D WHB611F WHB611C WHB611L WHB611J WHB611K WWH1586
K3	15 X 8 X 6 RIMS	
K4	G. WHEEL RECIEVER PLATE	
K5	G. WHEEL FRAME MOUNTING BRACKET	
K6	G. WHEEL ADJUSTMENT STEM	
K7	G. WHEEL SPINDLE ASSEMBLY	
	DUAL G. WHEELSPINDLE ASSEMBLY <i>(not pictured)</i>	
K8	WELD ON SPINDLE (709)	WHB611B

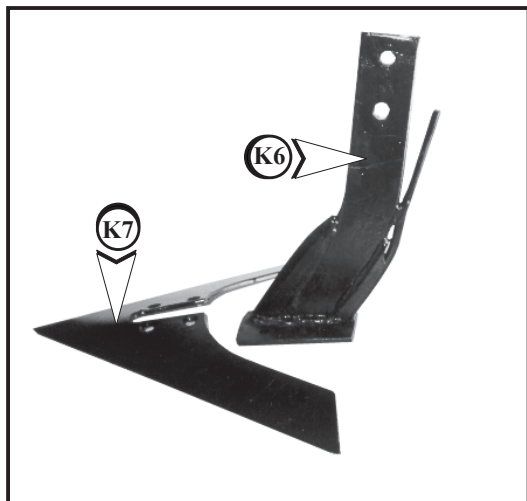
## K. Shank / Knife / Bracket



ITEM #	DESCRIPTION	WAKO NO.
K1	WAKO MAG 40 KNIFE	KKNC40A
K2*	WAKO C-1000 LONG SHANK	KSHC1000L
-	WAKO C-1000 SHORT SHANK	KSHC1000
K3	WAKO C-1000 BRACKET COMPLETE 1/2" X 2 1/2" GRADE 5 BOLTS	BBK1000 FHC12212

K2\* - THE XT APPLICATOR USES BOTH SHORT AND LONG SHANKS

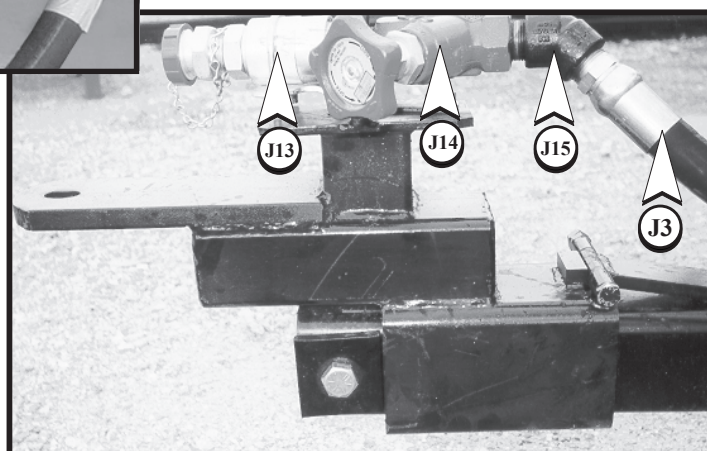
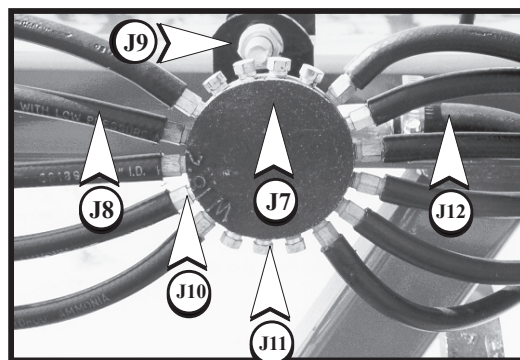
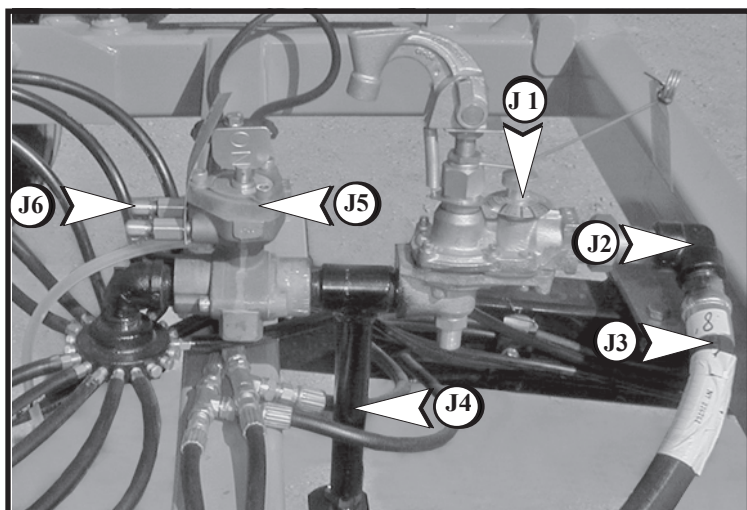
## Field Finisher Sweep (Optional)



ITEM #	DESCRIPTION	WAKO NO.
K4	1/4" FIELD FINISHER COMPLETE (HARDFACED)	
K5	5/16" FIELD FINISHER COMPLETE (HARDFACED)	
K6	FIELD FINISHER SHANK	
K7	BOLT ON SWEEP ONLY 1/4"(HARDFACED) BOLT ON SWEEP ONLY 5/16"(HARDFACED) 3/8 X 1 BOLTS ( TO BOLT ON SWEEP) 3/8" NUTS 3/8 LOCK WASHERS	FPB381 FNT1 FLW38



# J. NH<sup>3</sup> System



ITEM #	DESCRIPTION	WAKO NO.
J1.	CONTINENTAL 2503 METER	NMEC2503
J2.	1" SCH. 80 ELBOW	NQE1
J3.	1" X 14' NYLON BRAID NH3 HOSE	HONN0114
J4.	CONTINENTAL METER STAND	NMS15
J5.	R9590 HYDRAULIC SHUTOFF	NHSR9590
J6.	1/4" HYDRAULIC LINES (TO SHUTOFF)	HOHY14.....
J7.	18 OUTLET WAKO MANIFOLD	NMF18
J8.	3/8" WAKO SUPER DUTY EVA HOSE	HOEV038SD
J9.	WAKO BOLT ON MANIFOLD STAND (W/BOLTS)	NMS10
J10.	1/8" X 3/8" HOSE BARB CONNECTORS	NPH18X38
J11.	1/8" PLUGS	NPP18
J12.	3/4" SUPER DUTY EVA HOSE ( TO MANIFOLD)	HOEV034SD
J13.	REGO BREAKAWAY	NBA2141
	- ACME ADAPTOR 1-3/4"ACME X 1"MPT	NAFA524B
	- PLASTC RAIN CAP WITH CHAIN	NAF263FC
J14.	1" CONTINENTAL GLOBE VALVE	NVAA1350
J15.	1" SCH 80 45° ELBOW	NQL1
J17.	1" SCH 80 STREET ELL	NQS1
J18.	3/4" HOSE BARB CONNECTOR	NPH34X34
J19.	3/4" SUPER DUTY EVA HOSE	HOEV034SD
J20.	1" BULK NYLON BRAID NH <sup>3</sup> HOSE	HONN01

## NH<sup>3</sup> Repair Kits

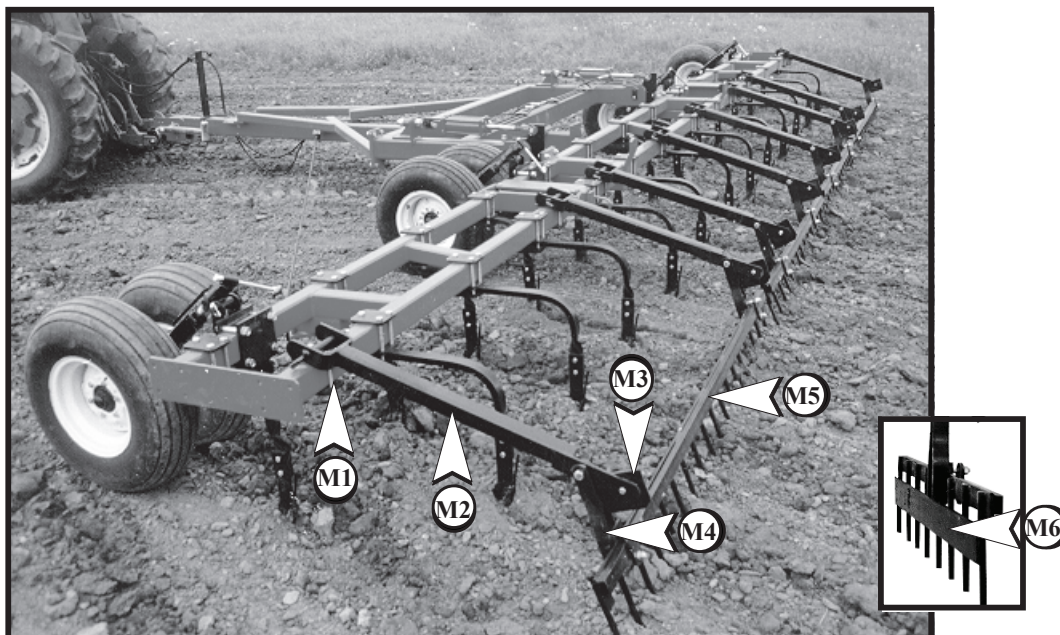
REPAIR KIT FOR  
2503 / 4103 METER  
.....NMERC410

REPAIR KIT FOR  
R9590 SHUTOFF  
.....NHS9590R

REGO BREAKAWAY  
O-RING  
.....NBA21415

REGO BREAKAWAY  
TEFLON BACKUP  
.....NBA21416

## XT Harrow (Optional)



ITEM #	DESCRIPTION	WAKO NO.
M1	XT HARROW FRAME MOUNTING BRACKET	
M2	XT HARROW DOGLEG	
M3	XT HARROW CAM PLATE	
M4	XT HARROW HANGER	
M5	XT HARROW TINEBAR	
M6	XT HARROW BLANK-OUT BAR	