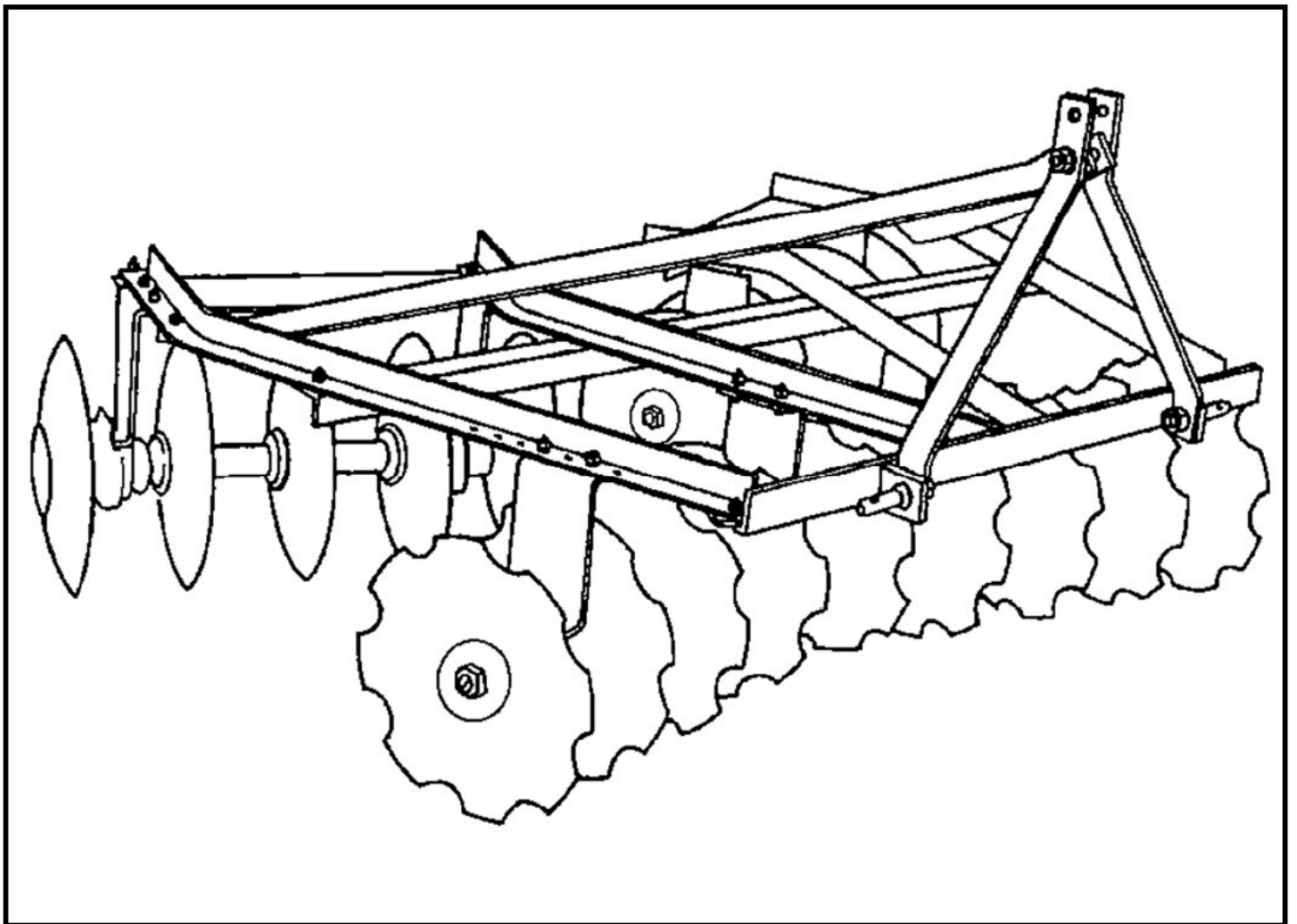


AFDHX60 DISC HARROW MANUAL



TO THE PURCHASER

This manual contains valuable information about your new Summit Tractor AFDHX60 Disc Harrow. It has been carefully prepared to give you helpful suggestions for operating, adjusting, servicing and ordering repair parts.

Keep this manual in a convenient place for quick and easy reference. Study it carefully. You have purchased a dependable and sturdy disc harrow, but only by proper care and operation can you expect to receive the service and long life designed and built into the product.

Sometime in the future your disc harrow may need new parts to replace those that are worn. If so, go to your dealer and provide him with the model and part number.

Customer Information

Name _____

Purchased From _____

Date Purchased _____

Model No. _____

It is the purchaser and/or operator's responsibility to....

I Read and understand the information contained in this manual.

I Operate, lubricate, assemble and maintain the equipment in accordance with all instructions and safety procedures in this manual.

I Inspect the equipment and replace or repair any parts that are damaged or worn which under continued operation would cause damage, wear to other parts, or cause a safety hazard.

I Return the equipment or parts to the authorized Summit Tractor dealer, from where it was purchased, for service or replacement of defective parts that are covered by warranty. (The Summit Tractor Factory or an Authorized Summit Tractor Dealer may inspect equipment or parts before warranty claims are honored.)

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SPECIFICATIONS

MODEL	AFDHX60
CUTTING WIDTH—in. (mm)	50" (1272.2)
MAX. CUTTING DEPTH—in. (mm)	6" (152)
HITCH TYPE	CAT. I
TRACTOR HP	UP TO 25
NUMBER OF DISC	16
DISC BLADE SPACING—in. (mm)	7-1/2" (190.5)
DISC BLADE DIAMETER—in. (mm)	14" (356.2)
BLADE MATERIAL	HT—HIGH CARBON STEEL
FRAME TYPE—2" X 2" X 1/4"	ANGLE IRON
GANG AXLES—in. (mm)	1" (25.4) HIGH CARBON STEEL
BEARING TYPE	SEALED BEARINGS
APPROX. WEIGHT—lbs. (kg)	425 (192.3)
APPROX WEIGHT PER BLADE—lbs. (kg)	26.5 (11.2)

SAFETY

READ AND FOLLOW THE INSTRUCTIONS IN THIS MANUAL AND ESPECIALLY IN THE SAFETY SECTION. FAILURE TO DO SO CAN RESULT IN SERIOUS INJURY OR DEATH.

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS.



THIS SYMBOL MEANS
ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED

SIGNAL WORDS:

The signal words **DANGER**, **WARNING** and **CAUTION** are used with the safety messages in this manual and with each safety signs. They are defined as follows:

DANGER: Indicates an immediate hazardous situation that, if not avoided, could result in serious injury or death. This signal word is to be limited to the most extreme situations typically for machine components that, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practice.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or Summit Tractor LLC 3379 Peachtree Road NE Suite 555 Atlanta, GA 30326 (678) 916-6555.

EQUIPMENT SAFETY GUIDELINES



- I Safety of the operator and bystanders is one of the main concerns in designing and developing a disc harrow. However, every year accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions and insist those working with you, or for you, follow them.
- I In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.
- I Replace any safety sign that is not readable or is missing. Copies of such safety signs are shown in this manual.
- I Never use alcoholic beverages or drugs that can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
- I **Under no circumstances should children under the age of 18 be allowed to work with this equipment. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** Review the safety instructions with all users annually.
- I This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with farm machinery and trained in this equipment's operations. If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.
- I Use a tractor equipped with a Roll Over Protective System and seat belts. (ROPS)
- I Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question- **DON'T TRY IT.**
- I Do not modify the equipment in any way. Unauthorized modification could result in serious injury or death and may impair the function and life of the equipment.
- I In addition to the design and the confirmation of this implement, 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 tractor and disc harrow manuals. Pay close attention to the safety signs affixed to the tractor and the disc harrow.

SAFETY TRAINING



- I Safety is a primary concern in the design and manufacture of our product. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
- I In addition to the design and configuration of 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 this equipment.
- I It has been said, “The best safety device is an informed, careful operator.” We ask you to be that kind of operator. It is the operator’s responsibility to read and understand all safety and operating instructions in the manual and to follow them. Accidents can be avoided.
- I Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your tractor, before assembly or operating, to acquaint yourself with the machines. If this machine is used by any person other than you, or is loaned or rented, it is the disc harrow owner’s responsibility to make certain that owner’s manual be available to the operator prior to operating and that the operator:
 - 1- Reads and understands the operator’s manuals.
 - 2- Is instructed in safe and proper use.
- I Know your controls and how to stop tractor, engine, and the disc harrow quickly in an emergency. Read this manual and the one provided with your tractor.
- I Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will operate the machinery. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.

PREPARATION



- I Never operate the tractor and disc harrow until you have read and completely understand this manual, the Tractor Operator's Manual, and each of the safety messages found on the safety signs on the tractor and disc.
- I Personal protection equipment including hardhat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintenance, repairing, removal, or moving the implement. Do not allow long hair, loose fitting clothing, or jewelry to be around equipment.
- I **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!** Tractors with or without disc harrows attached can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis if the noise in the operator's position exceeds 80 db. Noise over 80 db on a long-term basis can cause severe hearing loss. Noise over 90 db adjacent to the operator over a long-term basis may cause permanent, total hearing loss. **NOTE:** Hearing loss from loud noise (from tractors, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.
- I Operate the disc harrow only with a tractor equipped with an approved Roll-Over-Protective System (ROPS). Always wear your seat belt. Serious injury or even death could result from falling off the tractor — particularly during a turnover when the operator could be pinned under the ROPS or the tractor.
- I Operate only in daylight or good artificial light.
- I Ensure the disc harrow is properly mounted, adjusted and in good operating condition.
- I Ensure that all safety shielding and safety signs are properly installed and in good condition.

OPERATIONAL SAFETY



This product is designed to plow in the soil when attached to the 3-point linkage system of a tractor. It is **not** intended for any other use! Using the product for anything other than plowing could result in serious injury or death!

- I The use of this equipment is subject to certain hazards that cannot be protected against by the mechanical means or product design. All operators of this equipment must read and understand this entire manual, paying particular attention to safety and operating instructions, prior to using. If there is something in this manual you do not understand, ask your supervisor, or your dealer, to explain it to you.
- I Most accidents occur because of neglect or carelessness. Keep all helpers and bystanders at least several feet from an operating disc harrow. Only properly trained people should operate this machine.
- I When machine is operated in populated area **operation must be stopped when anyone comes within 25 feet.**
- I The majority of the accidents involve operators being knocked off the tractor by low hanging limbs. Accidents are most likely to occur with machines that are loaned or rented to someone who has not read the owner's manual and is not familiar with a disc harrow and or a tractor.
- I Install and secure all guards and shields before starting or operating. The tractor shields should be used and maintained in good working condition. They should be inspected carefully, at least daily, for missing or broken cable, chain links, shields, or guards. (Worn items must be replaced at once to reduce possibility of injury)
- I Place transmission in neutral before attempting to start engine.
- I Many varied objects, such as wire, cable, rope, or chains, can become entangled in the operating parts of the disc. Such a situation is extremely hazardous. Inspect the area for such objects before discing. Remove any like objects from the site.
- I Never allow the disc to contact such items. Never assume an area is clear. **Always Check!**

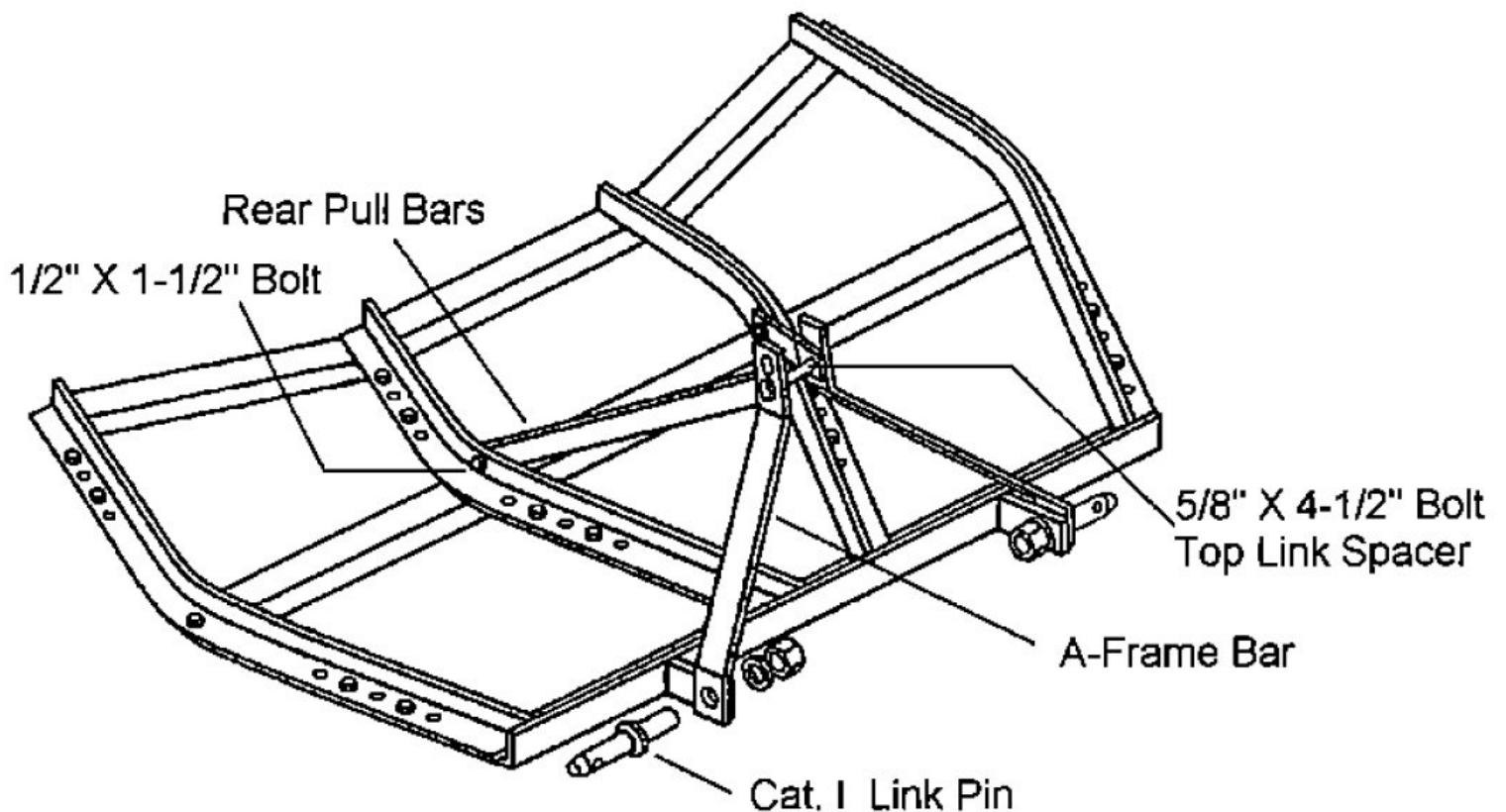
OPERATIONAL SAFETY *continued...*



- I Always stop the tractor, disengage PTO, set brake, shut off the tractor engine, remove the ignition key, lower implement to the ground and allow auger to come to a complete stop before dismounting tractor. Never leave equipment unattended with the tractor running.
- I Never place hands or feet close to disc harrow with tractor engine running or before you are sure all motion has stopped. Stay clear of all moving parts.
- I Do not reach or place any part of your body close to equipment until it is blocked securely.
- I Do not allow riders on the tractor at anytime. There is no safe place for any riders.
- I Do not operate unless all personnel, livestock, and pets are several feet away to prevent injury.
- I The rotating parts of this machine have been designed and tested for rugged use. However, they could fail upon impact with heavy, solid objects such as steel guardrails and concrete abutment. Such impact could cause the broken objects to be thrown outward. To reduce the possibility of property damage, serious injury, or even death, never allow the disc harrow to contact such obstacles.
- I Stop the disc harrow and tractor immediately upon striking an obstruction. Turn engine off, remove key, inspect and repair any damage before resuming operation.
- I Stay alert for uneven terrain, rocks, and roots and other hidden hazards. Keep away from drop-offs and hazards that could cause roll over. Use extreme care and maintain minimum ground speed when transporting or operating on hillsides, over rough ground and when operating close to ditches or fences. Be careful and slow down when turning sharp corners and changing direction on slopes. Do not start or stop suddenly on slopes. Avoid operation on steep slopes. In extremely uneven terrain, rear wheels weights, front tractor weight, and/or tire ballast should be used to improve stability.
- I Always check tractor manual for proper use on slopes.
- I When using a unit, a minimum 20% of tractor and equipment weight must be on tractor front wheels. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a front- end loader, front wheel weights, ballast in the tires or front tractor weights. When attaining a minimum 20% of tractor and equipment weight on the front wheels, you must not exceed the ROPS weight certification. Weigh the tractor and equipment. **Do not guess or estimate!**

ASSEMBLY

- 1.) Remove bundle wire on hitch from the main frame.
- 2.) Attach the A-frame bars to the inside of the pull lugs using the Cat. I link pins, lockwashers and nuts.
- 3.) Bolt pull lugs to lower hole in A- frame top using 5/8" x 4-1/2" bolt installing spacer provided between the pull bars.
- 4.) Attach lower end of pull bars to harrow frame using 1/2" x 1-1/2" bolts provided.
- 5.) Check all hardware to see that it is in position and tight.



BEFORE OPERATION

- 1.) Tighten all loose hardware. Replace any missing hardware. On new machines, all hardware must be rechecked after first few hours of operation.
- 2.) Replace any bent or broken parts.
- 3.) Refer to your Tractor's Owners Manual for recommended adjustments and weight distribution.
- 4.) Read the safety section of this manual to be sure of all precautions.

OPERATION

Your personal safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator.

In addition to the design and configuration of 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 equipment.

It has been said “**The best safety device is an informed, careful operator.**” We ask you to be that kind of an operator.

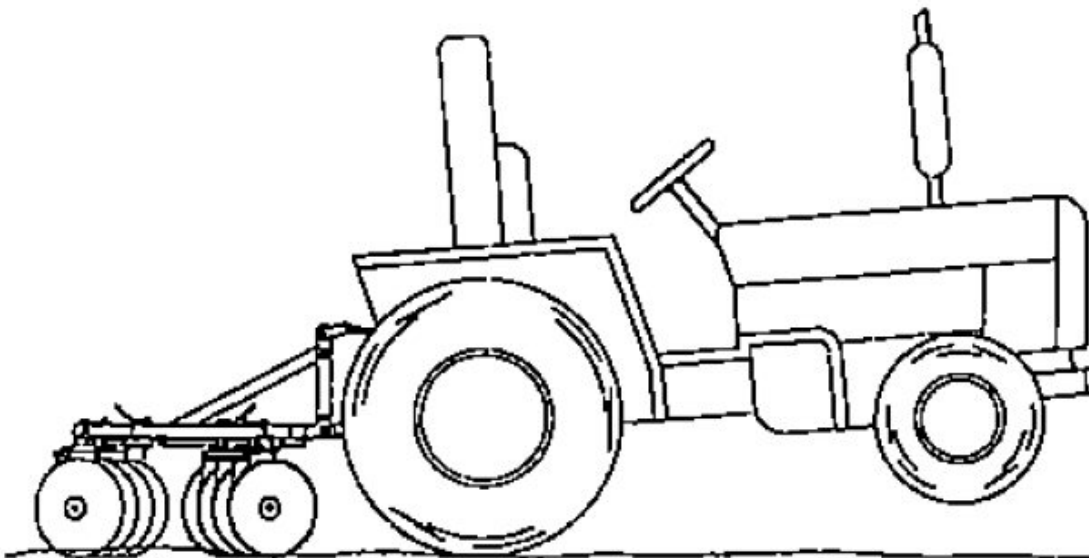
The operator is responsible for the proper operation of this disc harrow. The operator must be properly trained. Operators should be familiar with the disc harrow and the tractor and all safety practices before starting operation. Read the safety information in this manual.

TRACTOR STABILITY

WARNING



A minimum of 20% of combined tractor and harrow weight must be on tractor front wheels with attachment in transfer position. Without this weight, tractor could tip over causing personal injury or death. See your tractor operator’s manual regarding adding weights.



ATTACHING

- 1) Back tractor to align lower link arms with implement link pins.

WARNING



Be sure bystanders are clear. Do not stand between harrow and tractor. Shut off tractor and engage parking brake prior to dismounting.

- 2) Connect lower link arms to harrow using link pins provided. Secure with click pins.
- 3) Connect top link to harrow using a pin. Secure with click pins.

TRANSPORTING

- 1) Transport harrow lifted high above ground.
- 2) Travel at a speed suitable for terrain and other conditions. Transport at speeds compatible with safety and no more than 20 MPH (30 KPH). Use care when transporting on rough terrain.
- 3) Avoid night travel on public roads. If unavoidable, be sure to use adequate lighting on tractor and implement. Always have a Slow Moving Vehicle (SMV) emblem attached to the implement clearly visible from the rear. Check local laws regarding transport on public roads.

ADJUSTMENTS

Side To Side Leveling

The harrow should be leveled from side to side. With the harrow and tractor on level ground, use the tractor's link arm crank to adjust the lower link arm up or down as need to level the harrow.

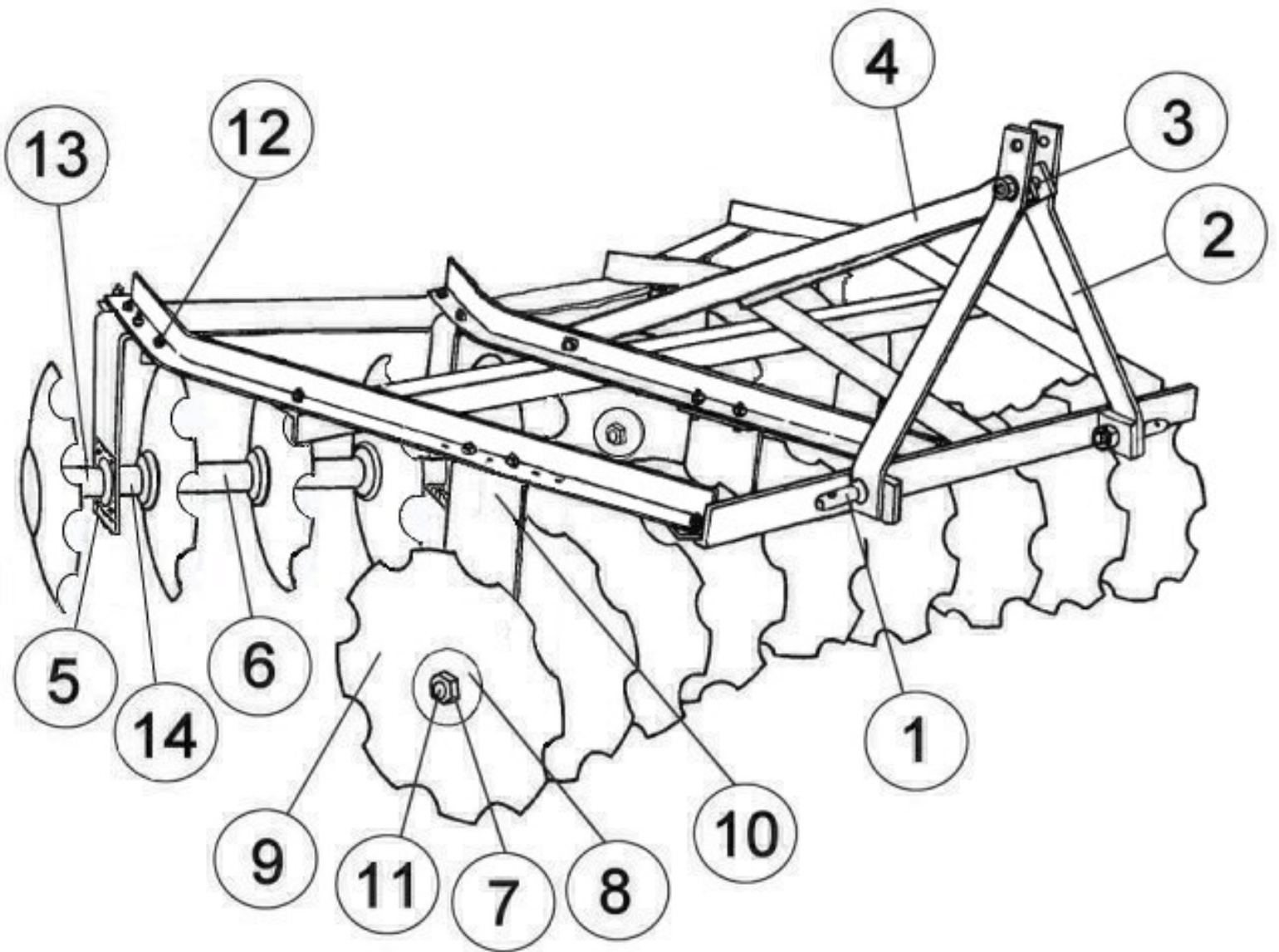
Front To Rear Leveling

The harrow is leveled front to rear by adjusting the length of the top link of the three point hitch. Shorten the top link to tilt the harrow forward, and lengthen the top link to tilt the harrow backwards.

Gang Angle Adjustment

- 1) Lift harrow enough to relieve pressure on gangs.
- 2) Remove bolts and nuts, adjust gangs to desired angle.
- 3) Reinstall bolts and nuts at new position.

AFDHX60 PARTS DIAGRAM



AFDHX60 PARTS

Ref. No.	Model #	Part #
	14-16-SB-N-XB	
1	(CAT. 1) Lift Pins (Pkg. 2)	500001
2	Lift Arm	311070
3	Lift Arm Spacer Kit	501090
4	Lift Arm Brace	311079
5	Sealed Bearings & Flanges	504125
6	Spacer	129500
7	Locknuts 1" (4pk)	504280
8	Axle Washer	322005
9	Disc Blade 14" Notched	189214
10	Bearing Stand	322064
11	Axle	401065
12	1/2" X 1-1/2" Bolts	NA
13	Spacer 3-5/8"	129550
14	Spacer 2-3/8"	129525

STORAGE

- 1) Clean all dirt and debris from harrow prior to storage.
- 2) Store your harrow on a flat surface sheltered from the weather.
- 3) Lower the harrow to the ground and block to prevent rolling.
- 4) For periods of long storage, coat soil engaging surfaces with a rust inhibitor such as a grease or oil. Apply touch-up paint to frame where paint is worn or chipped to prevent rusting.



1. Limited Warranty.

Summit Tractors LLC, 3379 Peachtree Road NE Suite 555 Atlanta, GA 30326, warrants to the original retail purchaser ("Purchaser") that the product that is the subject of this sale is free from defects in material and workmanship at the time of sale.

Under this warranty, Summit Tractors will repair the defective product free of charge to the Purchaser, with either new or used and reconditioned replacement parts. All warranty service will be performed at service centers designated by Summit Tractors. If Summit Tractors is unable to repair the product to conform to the warranty after a reasonable number of attempts, Summit Tractors will provide, at its option, one of the following: (a) a replacement for the product or, (b) a full refund of the purchase price. Repair, replacement, or refunds are the Purchaser's EXCLUSIVE remedies against Summit Tractors under this limited warranty. Summit Tractors will not be liable for any special, incidental or consequential damages based upon breach or warranty, breach of contract, negligence, strict tort liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of savings or revenue, loss of use of the product or any associated equipment, cost of capital, cost of any substitute equipment, facilities or services, down time, the claims of third parties including customers, and injury to property. These limitations also apply, to the extent allowed by law, to personal injury.

The purchaser must notify the Seller in writing of any defect in material or workmanship within one (1) year following the date of purchase. If the equipment is used for commercial purposes, the Purchaser must notify the Seller in writing of any defect in material or workmanship within ninety (90) days following the date of purchase. In no event will Summit Tractors be liable under this warranty unless written notice is received by the Seller within one (1) year from the date of original retail sale.

2. Warranty of Title.

Summit Tractors warrants that it transfers a good title to the product free of any encumbrances, and free of the rightful claim of any third party for infringement of patent or copyright.

3. What is Not Covered by This Limited Warranty.

Summit Tractors will not be responsible for damage to or failure in the product which results from accident, misuse, abuse, neglect, installation of attachments not provided by Summit Tractors, modifications to the product, or damage caused by use of the product for purposes other than those for which it was designed.

4. No Other Warranties.

Unless modified in writing and signed by both parties, this agreement is understood to be the complete and exclusive agreement and warranty between Summit Tractors and Purchaser, superseding all prior agreements, oral and written, and all other communication between Summit Tractors and Purchaser related to the subject matter of this agreement.