

OWNER'S/ OPERATOR'S MANUAL

MODEL NO.'s

DH-55-16

DH-55-18

DH-65-16

DH-65-18



CAUTION

For Safe Operation
Read Rules And
Instructions Carefully

SINO LEEINGLES, PIDA AYUDA
A AIGUIEN QUE SI LO LEA
PARA QUE LE TRADUZCA LAS
MEDIDAS DE SEGURIDAD.



Shown With Optional Weight Frame

RIGID FRAME TANDEM DISC HARROW

Safety Instructions
Tractor Preparation
Operating Instructions

Assembly & Mounting
Maintenance
Repair Parts

⚠ CAUTION ⚠

**THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE THOROUGHLY UNDERSTOOD
BEFORE ATTEMPTING TO BEGIN ASSEMBLING THIS MACHINE**

1. Select an area for assembly that is clean and free of any debris which might cause persons working on the assembly to trip.
2. Do not lift heavy parts or assemblies. Use crane, jack, tackle, fork trucks or other mechanical devices.
3. Preview the assembly instructions in your operator's manual before proceeding further.
4. If the assembly instructions call for parts or assemblies to be blocked up, use only blocking material that is in good condition and is capable of handling the weight of the assembly to be blocked. Also insure that the blocking material is on a clean, dry surface.
5. Never put hands, or any part of body, under blocked up assemblies if at all possible.
6. After completing assembly, thoroughly inspect the machine to be sure that all nuts, bolts, hydraulic fittings or any other fastened assemblies have been thoroughly tightened.
7. Before operating the machine, thoroughly read the operation section of your operator's manual.
8. Before operating, read the maintenance section of your operator's manual to be sure that any parts requiring lubrication, such as gearboxes, are full, to avoid any possible damage.
9. **Before operating equipment – If you have any questions regarding the proper assembly or operation, contact your dealer or representative.**

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SINO LEEINGLES, PIDA AYUDA A
AIGUIEN QUE SI LO LEA PARA QUE
LE TRADUZCA LAS MEDIDAS DE
SEGURIDAD.

STATEMENT OF POLICY

It is the policy of Worksaver to improve its products where it is possible and practical to do so. Worksaver reserves the right to make changes or improvements in design and construction at any time, without incurring the obligation to make these changes on previously manufactured units.

TO THE OWNER:

Read this manual before using your Rigid Frame Tandem Disc Harrow. This manual is provided to give you the necessary operating and maintenance instructions for keeping your Disc in top operating condition. Please read this manual thoroughly. Understand what each control is for and how to use it. Observe all safety signs on the machine and noted throughout the manual for safe operation of implement. Keep this manual handy for ready reference.

Like all mechanical products, it will require cleaning and upkeep. Lubricate the Disc as specified.

Use only genuine Worksaver service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model and serial number of your Disc here:

Model:_____ Serial Number:_____

RETAIL CUSTOMER'S RESPONSIBILITY

It is the Retail Customer and/or Operator's responsibility to read the Operator's Manual, to operate, lubricate, maintain, and store the product in accordance with all instructions and safety procedures. Failure of the operator to read the Operator's Manual is a misuse of this equipment.

It is the Retail Customer and/or Operator's responsibility to inspect the product and to have any part(s) repaired or replaced when continued operation would cause damage or excessive wear to other parts or cause a safety hazard.

It is the Retail Customer's responsibility to deliver the product to the authorized Worksaver Dealer, from whom he purchased it, for service or replacement of defective parts which are covered by warranty. Repairs to be submitted for warranty consideration must be made within forty-five (45) days of failure.

It is the Retail Customer's responsibility for any cost incurred by the Dealer for traveling to or hauling of the product for the purpose of performing a warranty obligation or inspection.

LIMITED WARRANTY



Worksaver warrants to the original purchaser of any new Rigid Frame Tandem Disc that the equipment be free from defects in material and workmanship for a period of six (6) months for non-commercial, state, and municipalities. Use sixty (60) days for commercial use from date of retail sale.

Replacement or repair parts installed in the equipment covered by this warranty are warranted for sixty (60) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later.

Such parts shall be provided at no cost to the user during regular working hours. Worksaver reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Worksaver's obligation under this warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Worksaver; duty; taxes; charges for normal service or adjustments; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery of equipment or parts resulting from acts beyond the control of the manufacturer.

THIS WARRANTY SHALL NOT APPLY:

1. To vendor items which carry their own warranties, such as hydraulic cylinders, tires, and tubes.
2. If the unit has been subjected to misapplication, abuse, misuse, negligence, fire or other accident.
3. If parts not made or supplied by Worksaver have been used in connection with the unit, if, in sole judgement of Worksaver such use affects its performance, stability, or reliability.
4. If the unit has been altered or repaired outside of an authorized dealership in a manner which, in the sole judgement of Worksaver affects its performance, stability or reliability.
5. To normal maintenance service and normal replacement items such as gearbox lubricant, hydraulic fluid, worn blades, or to normal deterioration of such things as belts and exterior finish, due to use or exposure.
6. To expendable or wear items such as teeth, chains, sprockets, belts, springs and other items that in the company's sole judgement is a wear item.

NO EMPLOYEE OR REPRESENTATIVE OF WORKSAVER IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY WORKSAVER'S SERVICE MANAGER, POST OFFICE BOX 100, LITCHFIELD, ILLINOIS 62056-0100.



To the Owner/Operator/Dealer

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

BEFORE YOU START!!

**Read the safety messages on the implement and shown in your manual.
Observe the rules of safety and common sense!**



THIS SYMBOL MEANS

- ATTENTION!
- BECOME ALERT!
- YOUR SAFETY IS INVOLVED!

THIS SAFETY ALERT SYMBOL IDENTIFIES IMPORTANT SAFETY WARNING MESSAGES. CAREFULLY READ EACH WARNING MESSAGE THAT FOLLOWS. FAILURE TO UNDERSTAND AND OBEY A SAFETY WARNING, OR RECOGNIZE A SAFETY HAZARD, COULD RESULT IN AN INJURY OR DEATH TO YOU OR OTHERS AROUND YOU. THE OPERATOR IS ULTIMATELY RESPONSIBLE FOR THE SAFETY OF HIMSELF, AS WELL AS OTHERS, IN THE OPERATING AREA OF THE TRACTOR AND ATTACHED EQUIPMENT.

UNDERSTAND SIGNAL WORDS

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

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

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, 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 practices.

If you have questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or the manufacturer directly.

IMPORTANT SAFETY INFORMATION!

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. It is the implement owner's responsibility, if this machine is used by any person other than yourself, is loaned or rented, to make certain that the operator, prior to operating:

1. Reads and understands the operator's manuals.
2. Is instructed in safe and proper use.



The use of this equipment is subject to certain hazards which cannot be protected against by 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.

SAFETY INSTRUCTIONS (continued)



EQUIPMENT SAFETY GUIDELINES



Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many 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 in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.



Review the safety instructions with all users annually.



This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **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.**



To prevent injury or death, use a tractor equipped with a Roll-Over Protective System (ROPS). Do not paint over, remove or deface any safety signs or warning signs on your equipment. Observe all safety signs and practice the instruction on them.



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.**



Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.



In addition to the design and configuration 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 Instructions in each of the appropriate sections of the Tractor and Implement Manuals. Pay close attention to the Safety Signs affixed to the Tractor and the Implement.



SAFETY SIGNS



Keep safety signs clean and legible at all times.



Replace safety signs that are missing or have become illegible.


















Replaced parts that displayed a safety sign should also display the current sign.



Safety signs are available from your Distributor or Dealer Parts Department or the factory.

SAFETY INFORMATION (continued)

-  All equipment is potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices.
-  When the use of hand tools is required to perform any part of assembly, installation, adjustment, maintaining, repairing of the implement, be sure the tools used are designed and recommended by the tool manufacturer for that specific task.
-  Personal protection equipment including safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing of the implement.
-  Always use two people to handle heavy, unwieldy components during assembly or installation of the implement.
-  Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintaining, repairing of the implement.
-  Never place yourself between the tractor and implement while implement is in operation.
-  Disc blades are sharp! Do not allow discs to roll over or fall on any part of the body. Do not allow wrenches to slip when working near disc blades. Do not climb over machine above disc blades. Failure to stay clear of disc blade edges can result in serious personal injury.
-  Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
-  Do not allow others to ride on the tractor with an operator. Riders are subject to injury such as being struck by foreign objects or being thrown off. Riders obstruct the operator's view resulting in unsafe operation. **Never allow anyone to ride on the implement!**
-  Before you operate the equipment, check over all pins, bolts and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.
-  Do not allow anyone who is not familiar with the safety rules and operation instructions to use this equipment.
-  Never allow children to operate or be around equipment.
-  Know your controls and how to stop tractor, engine, and implement quickly in an emergency. Read this manual and the one provided with your tractor.
-  Keep alert and watch the front as well as the rear when working with equipment.
-  Do not operate close to ditches or creeks. Slow down when operating over rough ground.

SAFETY INFORMATION (continued)



When maneuvering close to buildings or passing through narrow areas, be sure to allow sufficient clearance for the implement and tractor.



When removing, or adjusting equipment, be sure that your feet are never under the implement.



Be careful to avoid catching the implement on stumps or other immovable objects.



Use extra care when working on slopes.



Avoid excessive speed during operation.



Make implement adjustments only when the implement is attached to the tractor.



Always ease the tractor into the load.



Watch for and avoid hidden obstructions, i.e., buried pipes, rocks, concrete piers, uneven concrete slabs, stumps, etc., when operating equipment.



Never operate tractor and implement under trees with low hanging limbs. Operators can be knocked off the tractor and then run over by the implement.



Always be sure the implement is in the proper position for transport.



Reduce speed when transporting mounted implements to avoid bouncing and momentary loss of steering control.

















Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.



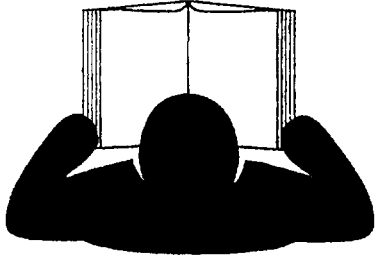
Do not exceed 10 mph (16 kph). Reduce speed on rough roads and surfaces.


SAFETY INSTRUCTIONS (continued)

-  Be certain the tractor is in neutral or park position before starting engine.
-  Take all possible precautions when leaving unit unattended: Disengage PTO, set parking brake, stop engine and remove key from ignition. Park in level area.
-  Pick up all rocks and other debris before operation. Enter new areas carefully. Never assume an area is clear. **Always Check!**
-  Turn curves or go up or down hills only at a low speed and at a gradual steering angle. Make certain that at least 20% of the tractor's weight is on the front wheels to maintain safe steering. Slow down on rough or uneven surfaces, and loose gravel.
-  Never work under equipment unless it is blocked securely.
-  Keep all persons away from operator control area while performing adjustments, service, or maintenance.
-  Never replace hex bolts with less than grade five bolts unless otherwise specified, i.e. shear bolts. Refer to bolt torque chart for head identification marking.
-  Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.
-  If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty.
-  Following operation, or when unhooking, stop the tractor, set the brakes, shut off the engine and remove the ignition keys.
-  Store the unit in an area away from human activity. Do not park equipment where it will be exposed to livestock for long periods of time. Damage and livestock injury could result.
-  Do not permit children to play on or around the stored unit.
-  Make sure all parked machines are on a hard, level surface and engage all safety devices.
-  If blocking is used, make sure it is solid and secure before leaving area.

SAFETY SIGNS

72.0291.00






WARNING

To prevent Serious Injury or Death

- Avoid unsafe operation or maintenance.
- Do not operate or work on this machine without reading and understanding the operator's manual.
- If manual is lost, contact your nearest dealer for a new manual.

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WARNING

- Blades are sharp! Be careful when making adjustments.
- Do not climb over blades.
- Failure to stay clear of blade edges may result in serious personal injury.

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- ✓ Keep children away from danger all day, every day.
 - ✓ Please work, drive, play, and live each day with care and concern for your safety and that of your family and fellow citizens.

INSTRUCTIONS

TRACTOR REQUIREMENTS AND PREPARATION

Rigid frame tandem disc harrows provide excellent soil tillage for small farms. Read this manual to learn how to operate the machine safely and for good field efficiency. Following the operating instructions and having a good maintenance program will let your tandem disc harrow provide many years of good, trouble-free service.

Tandem disc harrows can be used as a primary or secondary tillage tool. In heavy sod or ground with a large amount of plant residue, it may be best to plow the soil and then use the tandem disc harrow to cut any unburied plant material and smooth the soil.

On soils with light to medium plant cover, it is usually acceptable to disc the ground once or twice to cut up the plant growth and prepare the soil.

The model DH-55 (5½ ft.) and DH-65 (6½ ft.) tandem disc harrows will require a tractor equipped with a Category I (26" spacing with 7/8" pins) 3 pt. hitch.

A 5½ ft. tandem disc harrow will generally require a tractor with a minimum of 20-25 horsepower. A 6½ ft. tandem disc harrow will generally require a tractor with a minimum of 25-30 horsepower. Smaller size compact tractors may need to be larger than the above general rules.

Adding weight to a tandem disc harrow will aid the disc cutting deeper. It will also increase the horsepower required.

18" diameter disc blades will allow slightly deeper tillage and longer wear than 16" disc blades. However, the disc harrow will be heavier and generally require slightly more tractor horsepower.

Notched disc blades provide more aggressive cutting of residue. Plain disc blades generally leave a smoother soil finish.

It is recommended that only tractors with wide front axles be used with the tandem disc harrow. Tricycle front wheel arrangements are inherently unstable and tractor roll-over accidents are more likely to occur.

Check the tractor's 3 pt. hydraulic lift system. Refer to your tractor operator's manual or dealer for any adjustments necessary to put the hydraulic system in good working order. (I&T shop manuals will list most specifications and adjustment instructions – available from most farm equipment dealers.)

Be sure tires and rims are in good condition. Inflate tires to the proper recommended air pressure.

Check the tractor master shield over the PTO stub shaft. Make sure it is in good condition and fastened securely to the tractor. Purchase a new shield if old shield is damaged or missing. (You may have to use a tractor salvage yard for replacement parts on older tractors.)

It is recommended that a ROPS (Roll-Over Protection Structure) and a seat belt be installed on all tractors. Contact your local dealer for a ROPS for your tractor.

WARNING!

A heavy load can cause instability in driving a tractor. Make sure the front of the tractor is properly counterbalanced with weights. Always drive slowly – especially around turns. An unstable tractor could steer badly and possibly tip over, causing injury or death.

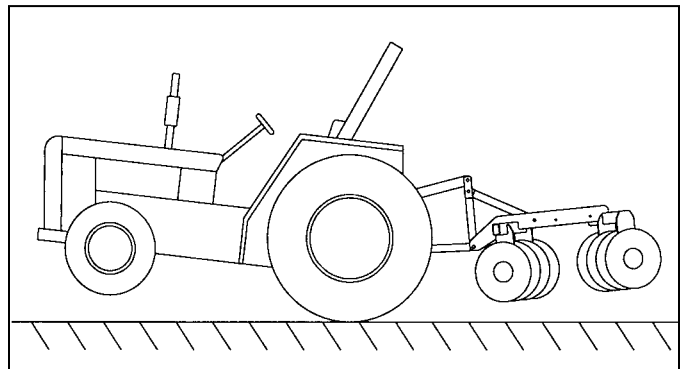


FIG. 1 Tractor Stability

WARNING!

When using 3 pt. hitch equipment, a minimum 20% of tractor and equipment weight must be on tractor front wheels. Without this weight, tractor could tip up, causing possible loss of control and possible personal injury or death. The weight may be attained with a front end loader, front wheel weights, ballast in 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!**

INSTRUCTIONS (continued)



Be sure your tractor is in good condition. Read all the safety precautions and make sure all tractor operators are familiar with the safety rules of operation.

The operator is responsible for the safe operation of this disc. The operator must be properly trained. Operators should be familiar with the disc and tractor and all safety practices before starting operation. Read the safety rules and safety signs on pages 3-8.

ASSEMBLY

Preview the assembly instructions and the exploded views of the disc in your operator's manual and become familiar as to how the parts or assemblies go together.

Select an area for assembly that is clean and free from debris. Have good blocking material available.

Do not attempt to lift heavy parts or assemblies. Use a hoist, crane, forklift, or similar safe mechanical device, or another person.

Stand to the side and cut the shipping bands using a pair of sheet metal shears. Remove the parts from the pallet. Open the box containing the gang bearings, hardware and operator's manual. Lay the main frame on its back so the bearing hangers are up. Match up the sets of gang bearings.

NOTE: The two bearing cap halves only fit together properly one way. If mated incorrectly, there will be a gap between the two halves.

To install the disc gangs on the main frame, it is suggested that the frame be upside down. Note: The $\frac{1}{2}$ " x 5" carriage bolts should be installed so the flange nuts are "up" (with frame right side up) or on the hanger brackets.

Lay a bearing half on each of two bearing hangers on one side of the unit. With the help of another person, set one of the gangs on the two bearing cap halves. Place the mating bearing caps on the gang units, install the $\frac{1}{2}$ x 5 carriage bolts, and flange lock nuts. Leave the lock nuts loose so the bearings can be adjusted. Assemble the opposite side in the same manner. Slide the two gangs toward the center with about $\frac{1}{4}$ inch between the two center blades. Snug the bearing lock nuts. Rotate the gangs and align the bearings by tapping them gently until the gangs rotate easily. Tighten the bearing bolts. Grease the bearings until grease appears at the ends of the bearings.

NOTE: These are cast bearings and require frequent, liberal greasing to keep dirt flushed from the bearings. Check the lubrication section of this manual.

Turn the disc right side up and assemble the "A" frame and brace straps as shown in the exploded parts view (page 15).



Disc blades are extremely sharp. Exercise extreme care when working on or near disc blades. Do not allow discs to roll over or fall on any bodily part. Do not allow wrenches to slip when working near disc blades and never push wrenches towards disc blades. Do not climb over machine above disc blades. Failure to stay clear of disc blade edges can result in serious personal injury.

HITCHING DISC TO TRACTOR 3 PT. HITCH

Never let anyone stand between the rear of the tractor and the disc while the tractor is backing up. Always stand to the side until tractor has come to a complete stop and the brakes set or the tractor placed in "PARK".

- 1) Back tractor to align link arms with disc hitch points.
- 2) Attach lower link arm to disc. Secure with linch pin.
- 3) Install suitable top link between tractor and disc. Secure with pins and linch pins.
- 4) Lift disc and check to see that both lower link arms are the same height. Adjust using crank if necessary.
- 5) Check to see that disc is level from front to rear. Shorten or lengthen top link as necessary to level the disc.

**OBEY SAFETY
RULES!
ALWAYS BE
CAREFUL!**

OPERATING INSTRUCTIONS

OPERATION

The safe operation of the implement is the responsibility of the operator. The operator should be familiar with the implement, tractor and all safety practices before starting operation. Review and follow all the safety rules in this manual and those of the tractor.

Due to the sharp rotating blades, a responsible adult only (not a child) should do all the discing and transporting operations.

Inspect the area to be discing for stumps, stones, branches, or other foreign objects that could cause damage to the pulling vehicle or the disc. If objects cannot be cleared from the area (like stumps) then mark them clearly so the operator can avoid them.

The tandem disc should be level when operating. Locate the tractor and disc on a level surface and adjust the topline so the disc sets flat on the level surface.

Only large gentle turns should be made with the disc in the ground. Always raise the disc when making sharp or tight turns.

It is recommended that anti-sway bars or chains are not used when using a disc harrow. This will assist in making gentle turns. Always remember that without sway bars or chains, the raised disc can sway side to side.

The disc can be operated at up to 4 mph. Under most conditions, 2 to 3 mph is a better operating speed. Operating too fast will not allow the blades to penetrate and greatly increase the chance of damage to the disc.

Successive passes should be made with the outer blade approximately 7 inches from the previous pass to match the blade spacing and to prevent ridging. In most cases, multiple passes will be required to achieve the desired soil preparation. It is recommended to work the second time over at an angle to avoid ridging and to mix the soil.

An optional weight frame for weights is available for increasing disc penetration.

Never allow anyone to play near the unit and always store the unit in a safe secure place, preferable in a locked storage shed or fenced area. Never allow anyone to climb or ride on the unit for any reason.

UNEVEN TERRAIN –



Do not operate on steep slopes.

Do not stop, start or change directions suddenly on slopes.

Use extreme care and reduce ground speed on slopes and rough terrain.

Watch for hidden hazards on the terrain during operation.

Pass diagonally through sharp dips and avoid sharp drops to prevent “hanging up” tractor and disc.

Practice will improve your skills in maneuvering rough terrain.



Keep alert and watch the front as well as the rear when working with equipment.

Do not operate close to ditches or creeks.

Slow down when operating over rough ground. Avoid excessive speeds!



When maneuvering close to buildings or passing through narrow areas, be sure to allow sufficient clearance for the implement and tractor.

TRANSPORTING

Pay particular close attention to the Safety Messages regarding transport. Avoid unnecessary injuries and equipment damage by exercising cautious, conscientious travel procedures.

Attaching the disc to the tractor increases the overall length of the working unit. Allow additional clearance for the disc to swing when turning.

Raise the disc as high as possible for transporting.

OWNER SERVICE

The information in this section is written for operators who possess basic mechanical skills. For your protection, read and follow all safety information in this manual.

LUBRICATION INFORMATION

Use a lithium grease of NO. 2 consistency with a MOLY (molybdenum disulfide) additive for all locations. Be sure to clean fittings thoroughly before attaching grease gun.

The Rigid Frame Tandem Disc uses greasable cast iron bearings for long trouble free operation. Each bearing half has a grease zerk fitting, one to the front of the disc gang and one to the rear. It is important that both halves of each bearing set be greased daily during use to keep dirt flushed out.

NOTE: Cast iron bearings have a slightly rough finish. Initially these rough spots will be ground off and a smooth bearing surface will result. It is recommended that when first using the disc, that the bearings be greased several times during use to flush out grease that has some of the ground particles. After this, once a day lubrication is sufficient.

These bearings cannot be damaged from over lubrication.



WARNING!

Always stop the tractor, set brake, shut off engine, and remove key before attempting to service. Never leave equipment unattended with engine running.

**OBEY ALL
SAFETY WARNINGS!!**

MAINTENANCE

Periodically check all bolts to make sure they are tight.

Replace any worn or damaged parts immediately.

NOTE: TIGHTEN ALL 1" BLADE AXLE NUTS TO 300 FOOT-POUNDS OF TORQUE.

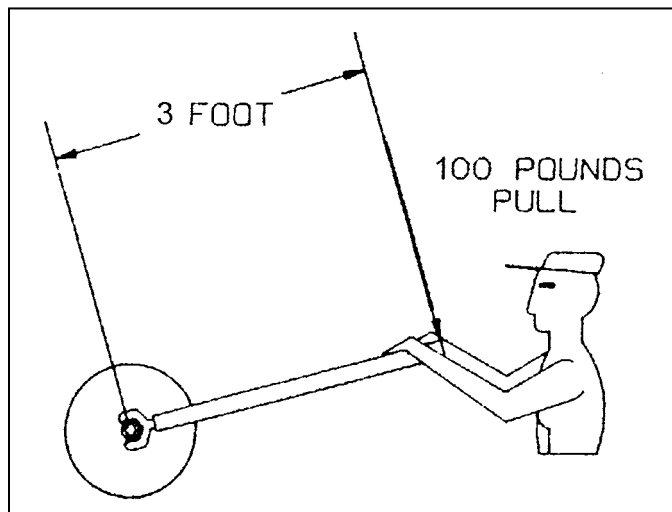


FIG. 2 Example of 300 foot-pounds of torque.

STORAGE

At the end of the working season or when the disc will not be used for a long period, it is good practice to clean off any dirt or grease that may have accumulated on the disc and any of the moving parts.

Inspect the disc for loose, damaged or worn parts and adjust or replace if needed.

Repaint parts where paint is worn or scratched to prevent rust. Replace any safety signs if damaged or missing.

Store the unit in a shed or under a tarpaulin to protect it from the weather. The disc blades and tires should rest on boards, or some other object, to keep them out of the soil.

Store disc in a clean, dry place away from human activity or livestock.

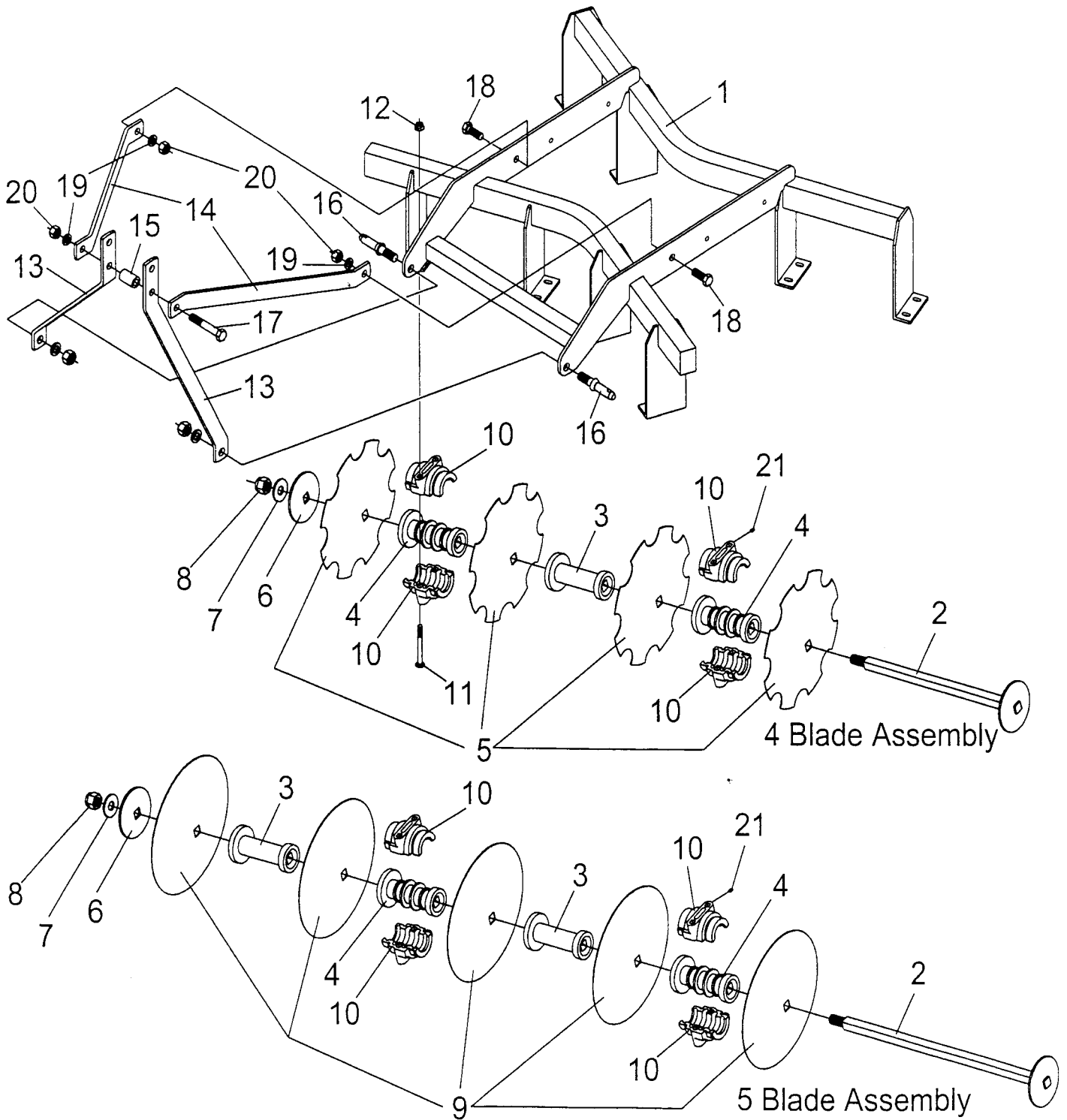
TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Tractor 3 pt. will not lift disc	Tractor too small	Use larger tractor
	Disc weighted too heavy	Remove some weight
	Faulty tractor 3 pt. hydraulic system	Repair 3 pt. hitch hydraulics
Front end of tractor comes up	Tractor too small	Use larger tractor
	Tractor front end light	Add front weight
	Operator releasing clutch rapidly	Let clutch out slowly and ease into load
Tractor won't pull disc or rear wheels spin	Tractor too small	Use larger tractor
	Tractor too light	Add weight or use larger tractor
	Disc cutting into ground too deep	Raise 3 pt. and disc until thru "soft" spot
	Ground too wet	Wait for drier conditions
	Soil too loose	Use larger tractor, add tractor weight
	Operator trying to turn with disc in ground	Raise disc when making turns
Front disc gangs cutting, but not rear gangs	Incorrect toplink length	Lengthen toplink
Rear disc gangs cutting, but not front gangs	Incorrect toplink length	Shorten toplink
Disc blades wobble on axle	Axle nut loose	Tighten axle nut

TROUBLESHOOTING GUIDE (continued)

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Broken disc blades	Hitting obstructions	Remove rocks or obstruction or mark so you don't drive over
	Operator trying to turn with disc in ground	Raise disc when making turns
	Operator trying to back up with disc on ground	Raise disc before backing tractor
	Disc blades loose on axle	Tighten axle nut
Disc won't cut ground	Ground hard	Wait for rain
	Disc too light	Add weight on disc
	Too much plant growth	Mow first or disc several times
Soil sticks to disc blades	Sticky soil or soil too wet	Wait for soil to dry more
	Disc blades rusty/dirty	Remove rust/dirt
Tall weeds or grass wrap around disc axle	Long tall crop residue	Mow plant residue before discing
		If wrapping problem occurs on second time over field – change discing direction or mow a second time in a different direction
Bearings wear rapidly	Poor lubrication or abrasive soil (sandy)	Grease bearings more often

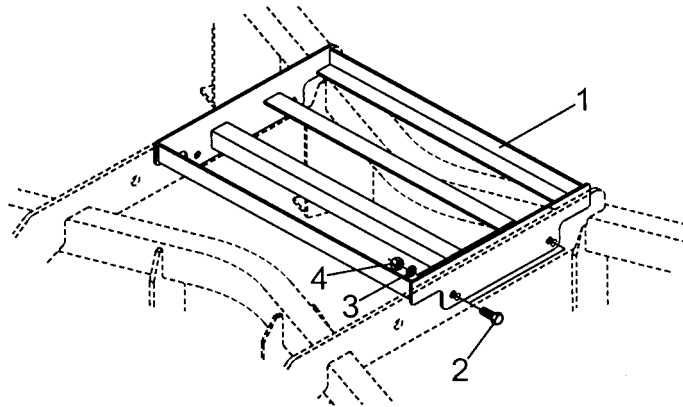
TANDEM DISC PARTS DRAWING



TANDEM DISC PARTS LIST

Ref. No.	Part No.	Description	DH55-16C	DH55-16N	DH55-16P	DH55-18C	DH55-18N	DH55-18P	DH65-16C	DH65-16N	DH65-16P	DH65-18C	DH65-18N	DH65-18P
1	940321	Main Frame Weldment	1	1	1	1	1	1	1	1	1	1	1	1
2	940282	Disc Axle Weldment (4 Blade) 25"	4	4	4	4	4	4	-	-	-	-	-	-
	940341	Disc Axle Weldment (5 Blade) 32.5"	-	-	-	-	-	-	4	4	4	4	4	4
3	940283	Disc Spool-7" Plain	4	4	4	4	4	4	8	8	8	8	8	8
4	940284	Disc Spool-7" Ribbed	8	8	8	8	8	8	8	8	8	8	8	8
5	940297	Disc Blade-16" Notched	8	16	-	-	-	-	10	20	-	-	-	-
	940356	Disc Blade-18" Notched	-	-	-	8	16	-	-	-	-	10	20	-
6	940318	Back-Up Disc	4	4	4	4	4	4	4	4	4	4	4	4
7	2501001	Washer 1" Flat	4	4	4	4	4	4	4	4	4	4	4	4
8	2500045	Nut 1"-8NC Nylock Hex	4	4	4	4	4	4	4	4	4	4	4	4
9	940337	Disc Blade-16" Plain	8	-	16	-	-	-	10	-	20	-	-	-
	940358	Disc Blade-18" Plain	-	-	-	8	-	16	-	-	-	10	-	20
10	940293	Bearing Cap (Half)	16	16	16	16	16	16	16	16	16	16	16	16
11	2503268	Bolt 1/2"-13NC x 5" Carriage Head Gr. 5	16	16	16	16	16	16	16	16	16	16	16	16
12	2500040	Nut 1/2"-13NC Whiz Flange Hex	16	16	16	16	16	16	16	16	16	16	16	16
13	940315	Toplink Upright Bar	2	2	2	2	2	2	2	2	2	2	2	2
14	940323	Toplink Brace Strap	2	2	2	2	2	2	2	2	2	2	2	2
15	940322	Pivot Bushing	1	1	1	1	1	1	1	1	1	1	1	1
16	590108	Draw Pin (AK-578)	2	2	2	2	2	2	2	2	2	2	2	2
17	2503121	Bolt 3/4"-10NC x 4 1/2" Hex Head Gr. 2	1	1	1	1	1	1	1	1	1	1	1	1
18	2503002	Bolt 3/4"-10NC x 2" Hex Head Gr.2	2	2	2	2	2	2	2	2	2	2	2	2
19	2502001	Washer 3/4" Spring Lock	3	3	3	3	3	3	3	3	3	3	3	3
20	2500002	Nut 3/4"-10NC Full Hex	3	3	3	3	3	3	3	3	3	3	3	3
21	2504208	Grease Zerk M6 x 1.0	16	16	16	16	16	16	16	16	16	16	16	16
	940300	Disc Gang Assembly (4 Blade-16" Notched)	2	4	-	-	-	-	-	-	-	-	-	-
	940338	Disc Gang Assembly (4 Blade-16" Plain)	2	-	4	-	-	-	-	-	-	-	-	-
	940346	Disc Gang Assembly (4 Blade-18" Notched)	-	-	-	2	4	-	-	-	-	-	-	-
	940342	Disc Gang Assembly (4 Blade-18" Plain)	-	-	-	2	-	4	-	-	-	-	-	-
	940340	Disc Gang Assembly (5 Blade-16" Notched)	-	-	-	-	-	-	2	4	-	-	-	-
	940339	Disc Gang Assembly (5 Blade-16" Plain)	-	-	-	-	-	-	2	-	4	-	-	-
	940348	Disc Gang Assembly (5 Blade-18" Notched)	-	-	-	-	-	-	-	-	-	2	4	-
	940347	Disc Gang Assembly (5 Blade-18" Plain)	-	-	-	-	-	-	-	-	-	2	-	4

OPTIONAL WEIGHT BOX KIT



Ref. No.	Part No.	Description	No. Req'd.
1	940326	Weight Box Weldment	1
2	2503026	Bolt 1/2"-13NC x 1 1/4" Hex Head Gr.2	4
3	2502002	Washer 1/2" Springlock	4
4	2500003	Nut 1/2"-13NC Full Hex	4

⚠ SAFETY PRECAUTIONS ⚠

**MOST ACCIDENTS OCCUR BECAUSE OF NEGLIGENCE OR CARELESSNESS.
AVOID NEEDLESS ACCIDENTS BY FOLLOWING ALL OF THE SAFETY PRECAUTIONS LISTED BELOW.**

- Machinery should be operated only by those who are responsible and are authorized to do so.
- Stop the engine, lower all equipment, lock the brakes, and remove the ignition key before dismounting from the tractor.
- Never stand between tractor and implement while tractor is being backed to hitch.
- Loose fitting clothing should not be worn, to avoid catching on various parts.
- Detach implement in area where children normally do not play.
- When performing adjustments or maintenance on an implement, first lower it to the ground or block it securely at a workable height.
- Only a qualified operator should be permitted on tractor when in operation; no riders allowed.
- Make certain everyone is in the clear before starting tractor or raising or lowering equipment.
- Operate the tractor and implement only while seated in the driver's seat.
- Reduce speed when transporting mounted implements to avoid bouncing and momentary loss of steering control.
- A heavy load can cause instability of the tractor. Use extreme care during road travel. Slow down on turns and watch out for bumps. Tractor may need front counterweights to counter-balance the weight of the implement.
- Reduce speed on hillsides or curves so there is no danger of tipping.
- Avoid driving too close to the edge of ditches or creeks.
- Do not transport implement on public roads without reflectors and slow moving vehicle emblem in daylight and with approved warning lights at night and other periods of poor visibility.
- Due to the width of some implements, use extra caution on highways, farm roads, and when approaching gates.
- Always be sure the implement is in the proper position for transport.
- Keep alert and watch the front as well as the rear when working with the implement.

OWNER'S/ OPERATOR'S MANUAL

**MODEL NO.'s
DH-55-16
DH-55-18
DH-65-16
DH-65-18**

**WHEN ORDERING REPAIR
PARTS, ALWAYS GIVE THE
FOLLOWING INFORMATION:**

1. PART NUMBER
2. PART DESCRIPTION
3. MODEL NUMBER
4. NAME OF ITEM

OCTOBER 2002

RIGID FRAME TANDEM DISC HARROW

**Keep children away from danger all day,
every day . . .**

**Please work, drive, play and live each day
with care and concern for your safety and
that of your family and fellow citizens.**

**MAKE EVERY DAY
A HOLIDAY
FROM ACCIDENTS!**

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