

787 Air Seeding Systems

**John Deere Des Moines Works
TM1577 (19JUN02)**

LITHO IN U.S.A.
ENGLISH

Introduction

FOREWORD

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in the introduction of this manual and the cautions presented throughout the text of the manual.



This is the safety-alert symbol. When you see this symbol on the machine or in this manual, be alert to the potential for personal injury.

Technical manuals are divided in two parts: repair and diagnostics. Repair sections tell how to repair the components. Diagnostic sections help you identify the majority of routine failures quickly.

Information is organized in groups for the various components requiring service instruction. At the beginning of each group are summary listings of all applicable essential tools, service equipment and tools, other materials needed to do the job, service parts kits, specifications, wear tolerances, and torque values.

This manual is part of a total product support program.

FOS MANUALS—REFERENCE

TECHNICAL MANUALS—MACHINE SERVICE

COMPONENT MANUALS—COMPONENT SERVICE

Fundamentals of Service (FOS) Manuals cover basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes. FOS Manuals are for training new personnel and for reference by experienced technicians.

Technical Manuals are concise guides for specific machines. Technical manuals are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing, and repair.

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All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

TM1577-19-19JUN02

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A John Deere ILLUSTRATION® Manual

Section 10 SAFETY AND GENERAL INFORMATION

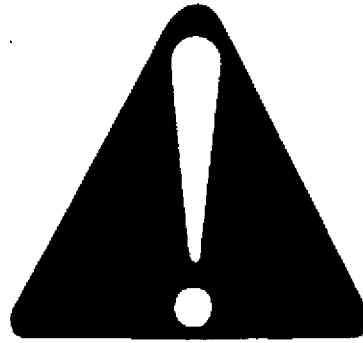
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RECOGNIZE SAFETY INFORMATION

This is the safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



DX,ALERT -19-03MAR93

T81389 -UN-07DEC88

UNDERSTAND SIGNAL WORDS

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.



DX,SIGNAL -19-03MAR93

TS187 -19-30SEP88

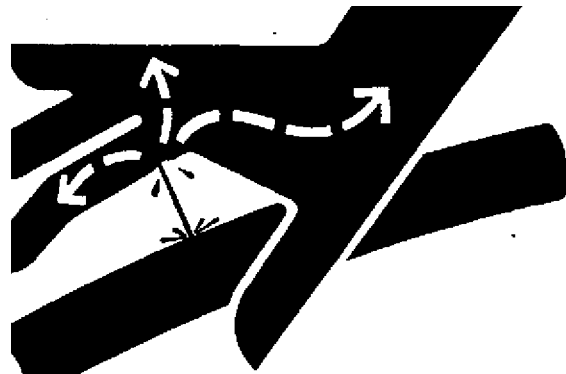
AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



DX,FLUID -19-03MAR93

X9811 -UN-23AUG88

10-05-2

AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can be accidentally cut when heat goes beyond the immediate flame area.



DX,TORCH -19-03MAR93

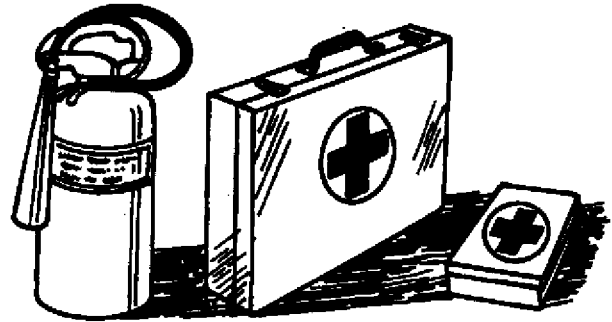
TS963 -JUN-15MAY90

PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



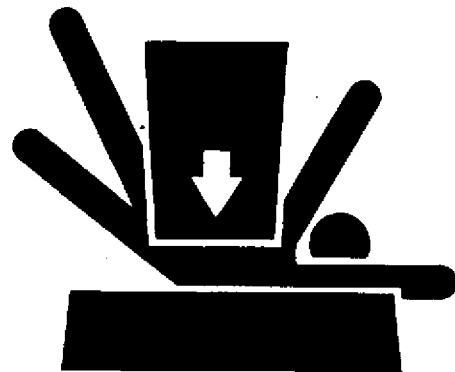
DX,FIRE2 -19-03MAR93

TS291 -JUN-23AUG88

SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



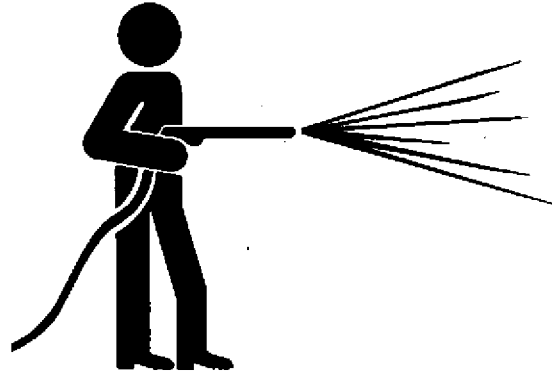
DX,LOWER -19-04JUN90

TS229 -JUN-23AUG88

WORK IN CLEAN AREA

Before starting a job:

- Clean work area and machine.
- Make sure you have all necessary tools to do your job.
- Have the right parts on hand.
- Read all instructions thoroughly; do not attempt shortcuts.



DX,CLEAN -19-04JUN90

T6642EJ -UN-18OCT88

10-05-3

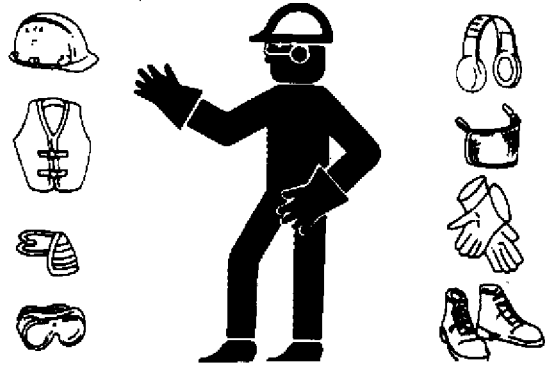
WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



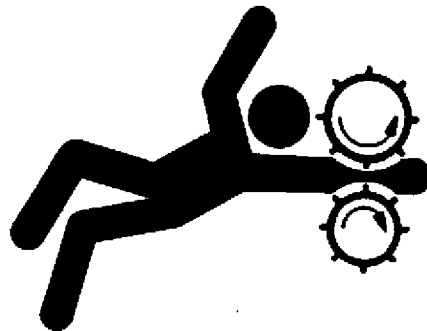
DX,WEAR -19-10SEP90

TS206 -UN-23AUG88

SERVICE MACHINES SAFELY

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



DX,LOOSE -19-04JUN90

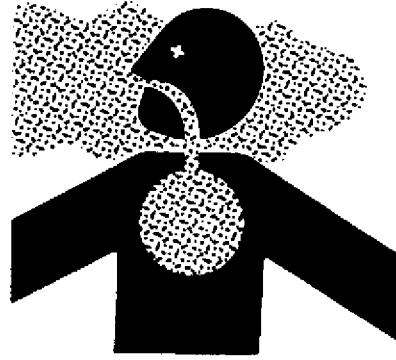
TS228 -UN-23AUG88

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WORK IN VENTILATED AREA

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.



DX,AIR -19-04JUN90

TS220 -JUN-23AUG88

ILLUMINATE WORK AREA SAFELY

Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.

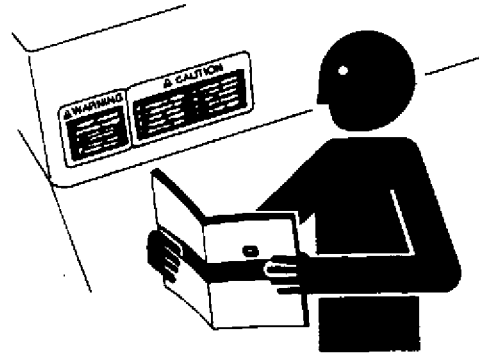


DX,LIGHT -19-04JUN90

TS223 -JUN-23AUG88

REPLACE SAFETY SIGNS

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.



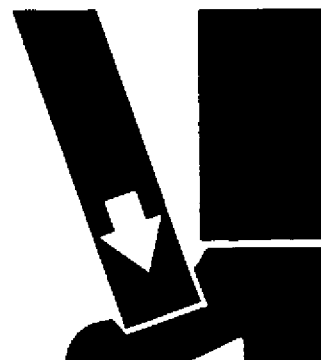
DX,SIGNS1 -19-04JUN90

TS201 -JUN-23AUG88

USE PROPER LIFTING EQUIPMENT

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



DX,LIFT -19-04JUN90

TS226 -JUN-23AUG88

SERVICE TIRES SAFELY

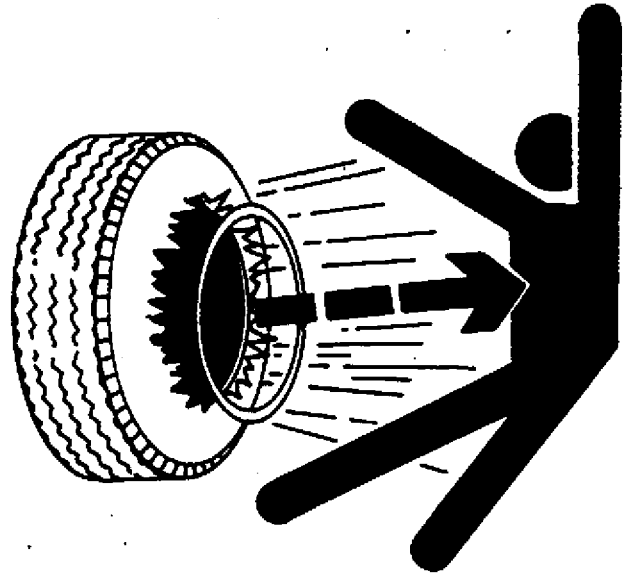
Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.



1051
-UN-23AUG88
TS211

DX,RIM -19-24AUG90

PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.



-UN-23AUG88
TS218

DX,SERV -19-03MAR93

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USE PROPER TOOLS

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards.

Use power tools only to loosen threaded parts and fasteners.

For loosening and tightening hardware, use the correct size tools. **DO NOT** use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only service parts meeting John Deere specifications.



TS779 -JUN-08NOV89

DX,REPAIR -19-04JUN90

REMOVE PAINT BEFORE WELDING OR HEATING

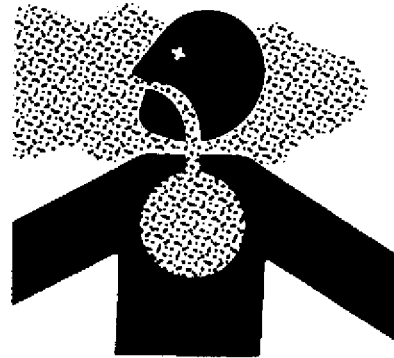
Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.



TS220 -JUN-23AUG88

DX,PAINT -19-03MAR93

DISPOSE OF WASTE PROPERLY

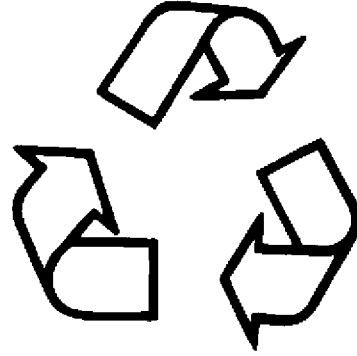
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.



DX,DRAIN -19-03MAR93

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-JUN-26NOV90
TS1133

LIVE WITH SAFETY

Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.



DX,LIVE -19-25SEP92

-19-07OCT88
TS231

UNAUTHORIZED MODIFICATIONS

⚠ CAUTION: Unauthorized modification can affect safe operation of the machine. Do not modify machine from its original design and function.

Unauthorized modifications to the machine may impair the function of the machine and affect machine service life.

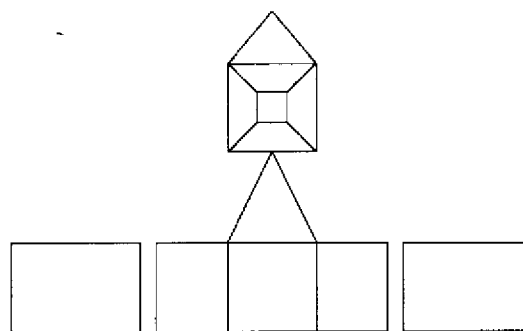
NX1577,1015,A -19-18OCT94

CONFIGURATION IDENTIFICATION

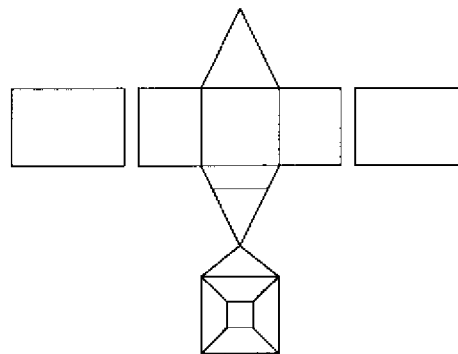
Tow-Between or Tow-Behind configuration refers to the seed carts position relative to the tractor and tillage equipment.

In tow-between configuration, seed cart is attached between the tractor and tillage equipment. Product is discharged from the rear of the seed cart in tow-between configuration.

In tow-behind configuration, seed cart is attached behind the tillage equipment. Product discharges from the front of the seed cart in tow-behind configuration.



Tow-Between Configuration



Tow-Behind Configuration

NX1577,1015,B -19-14NOV94

N46471 -JUN-11OCT94

N46472 -JUN-11OCT94

PRODUCT IDENTIFICATION—130 BUSHEL



130 Bushel Tow-Between

N45910
-JUN-04JAN94

NOTE: The 130 Bushel seed cart comes in tow-between or tow-behind configuration.

NX1577,1015,C -19-16NOV94

PRODUCT IDENTIFICATION—170/230 BUSHEL



230 Bushel Tow-Behind

N43921
-JUN-28OCT91

NOTE: Both 170 Bushel and 230 Bushel seed carts are available in either tow-behind or tow-between configuration.

170 Bushel seed cart is similar in design and appearance to 230 Bushel cart.

NX1577,1015,D -19-16NOV94

PRODUCT IDENTIFICATION—THIRD TANK



N44130
-JUN-03FEB92

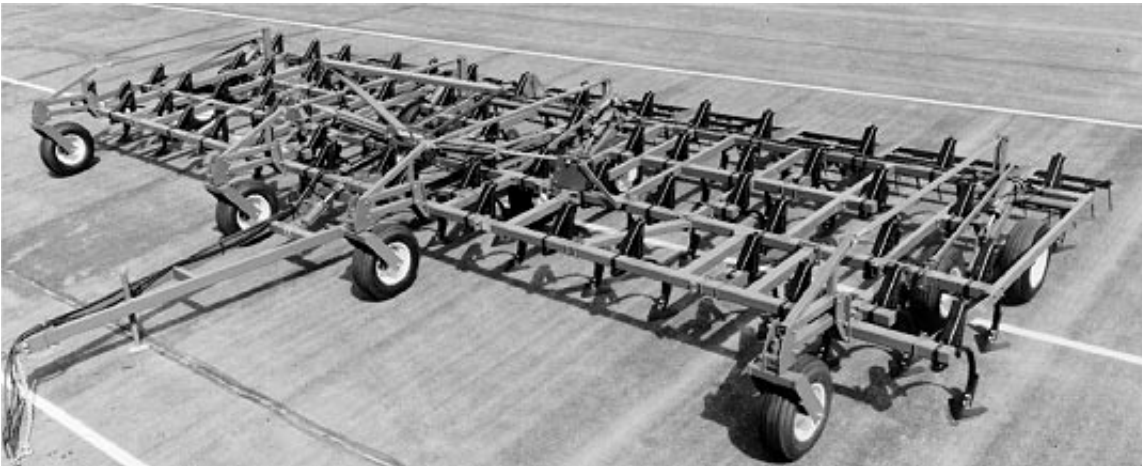
Tow-Behind Cart With Third Tank

NOTE: Third tank can only be installed on 170 Bushel or 230 Bushel seed carts. An additional broadcast distribution air system

needs to be installed on tillage equipment for proper operation.

NX1577,1015,E -19-14NOV94

COMPATIBLE TILLAGE EQUIPMENT—610 SEEDING TOOL

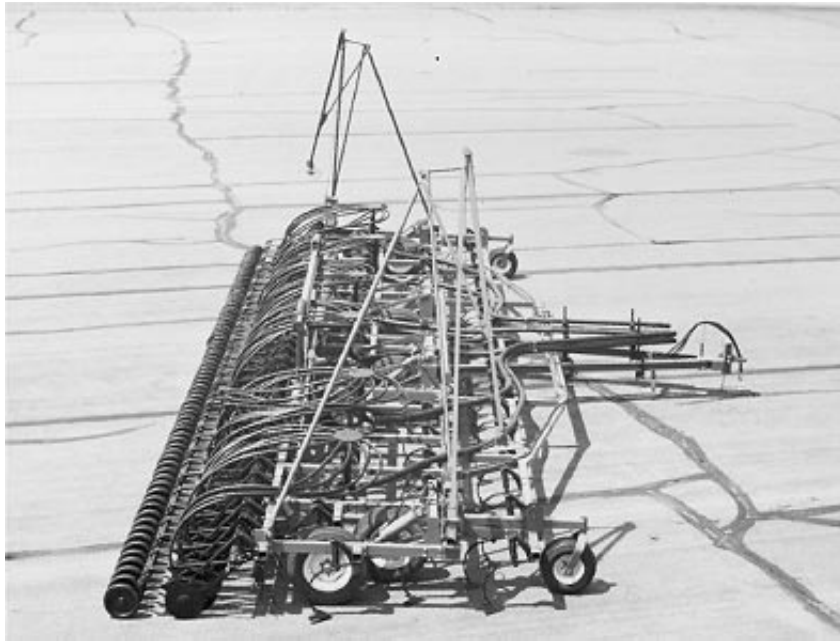


N40129
-JUN-21OCT88

NOTE: 610 Seeding Tool can be configured for use with a tow-between or tow-behind seed cart.

NX1577,1015,F -19-14NOV94

COMPATIBLE TILLAGE EQUIPMENT—1060 SEEDING TOOL

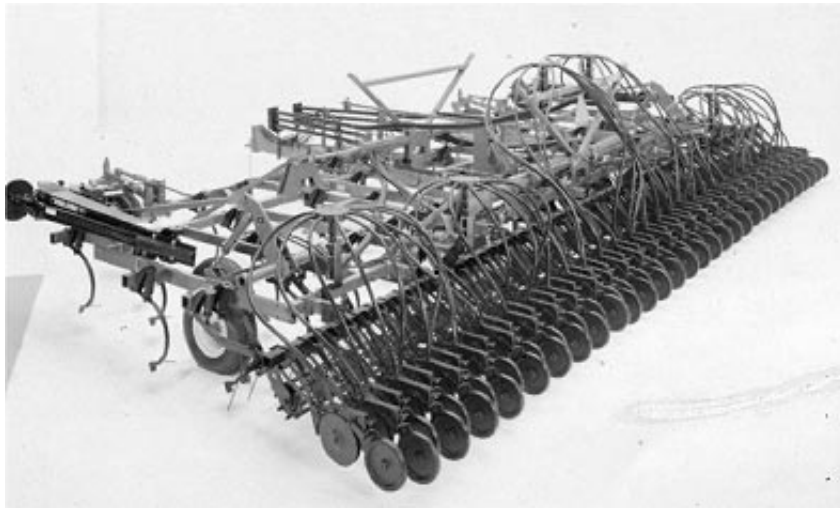


N88290XX
-JUN-11JAN89

NOTE: 1060 Seeding Tool is designed for use with a tow-between seed cart ONLY.

NX1577,1015,G -19-14NOV94

COMPATIBLE TILLAGE EQUIPMENT—730 AIR DISK DRILL

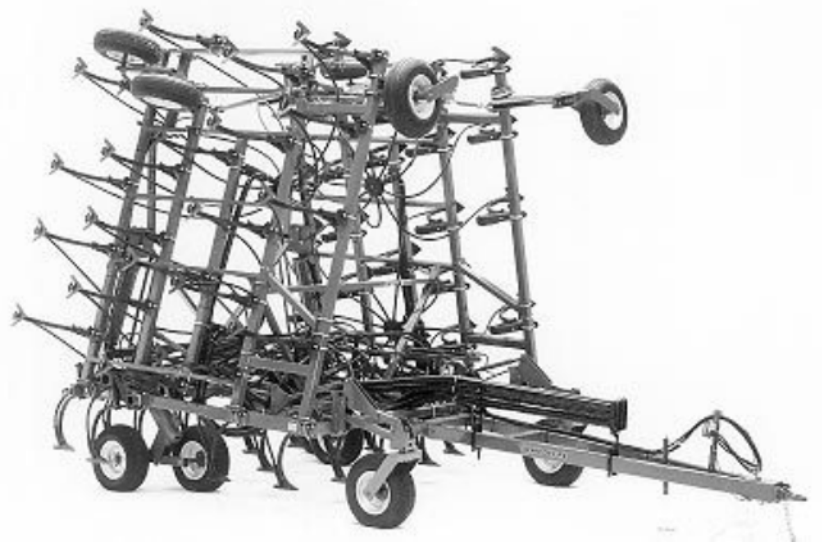


N45662
-JUN-17NOV93

NOTE: 730 Air Disk Drill was originally designed for use with a tow-between seed cart, but can now be adapted to use a tow-behind cart.

NX1577,1015,H -19-14NOV94

COMPATIBLE TILLAGE EQUIPMENT—735 SEEDING TOOL



N46416 -JUN-30AUG94

NOTE: 735 Seeding Tool can be configured for use with a tow-between or tow-behind seed cart.

NX1577,1015,I -19-16NOV94

COMPATIBLE TILLAGE EQUIPMENT—737 AIR HOE DRILL



N46417 -JUN-30AUG94

NOTE: 737 Air Hoe Drill can be configured for use with a tow-between or tow-behind seed cart.

NX1577,1015,J -19-16NOV94

10-15-5

MACHINE SPECIFICATIONS—130 BUSHEL

	Tow Behind	Both	Tow Between
Dimensions:			
Height		2.87 m (9 ft 5 in.)	
Width		3.05 m (10 ft 0 in.)	
Length w/Auger	5.66 m (18 ft 7 in.)		5.56 m (18 ft 3 in.)
Auger Diameter		178 mm (7 in.)	
Capacity (Bushels/Volume):			
Front Tank @ 100% Full		52 bu (65 ft ³)	
Rear Tank @ 100% Full		78 bu (97.5 ft ³)	
Front/Rear Ratio @ 100% Full		40%/60%	
Air System:			
Drive		Hydraulic	
Horsepower to Drive		4.5—10.4 kW (6—14 hp)	
Air Hoses:			
Major		63.5 mm (2.50 in.)	
Minor		25.4 mm (1.0 in.)	
Meters:			
Drive		Ground	
Number		2	
Tires:			
All		16.5L x 16.1 6PR	

NOTE: Specifications and design subject to change without notice.

NX,787130S,A1 -19-07NOV94

MACHINE SPECIFICATIONS—170 BUSHEL

	Tow Behind	Both	Tow Between
Dimensions:			
Height		2921 mm (115 in.)	
Width		3513 mm (138.3 in.)	
Length w/Auger	5817 mm (229 in.)		6172 mm (243 in.)
Auger Diameter		178 mm (7 in.)	
Weight:			
Empty	2931 kg (6460 lb)		2629 kg (5795 lb)
Loaded (Wheat @ 48 lb-ft ³)	7536 kg (16614 lb)		7234 kg (15949 lb)
Tongue Weights			
Empty			544 kg (1200 lb)
Loaded			1368 kg (3016 lb)
Ground Clearance:			
Empty	478 mm (18.8 in.)		465 mm (18.3 in.)
Loaded	432 mm (17 in.)		419 mm (16.5 in.)
Capacity (Bushels/Volume):			
Front Tank @ 95% Full		2.40 m ³ (67.8 bu)/(84.8 ft ³)	
Rear Tank @ 95% Full		3.74 m ³ (105.5 bu)/(131.9 ft ³)	
Front/Rear Ratio @ 95% Full		38.1%/61.9%	
Front Tank @ 100% Full		2.53 m ³ (71.4 bu)/(89.2 ft ³)	
Rear Tank @ 100% Full		3.93 m ³ (111.1 bu)/(139.1 ft ³)	
Front/Rear Ratio @ 100% Full		39.1%/60.9%	
Air System:			
Drive		Hydraulic	
Horsepower to Drive		4.5—10.4 kw (6—14 hp)	
Air Hoses:			
Major		63.5 mm (2.50 in.)	
Minor		25.4 mm (1.0 in.)	
Meters:			
Drive		Ground	
Number		2	
Tires:			
Front (Single or Dual)	16.5L x 16.1 6PR		
Rear (2)		18.4 x 26 10PR	

NOTE: Specifications and design subject to change without notice.

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MACHINE SPECIFICATIONS—230 BUSHEL

	Tow Behind	Both	Tow Between
Dimensions:			
Height		3175 mm (125 in.)	
Width		3683 mm (145 in.)	
Length w/Auger	5817 mm (229 in.)		6172 mm (243 in.)
Auger Diameter		178 mm (7 in.)	
Weight:			
Empty	3141 kg (6910 lb)		2907 kg (6395 lb)
Loaded (Wheat @ 48 lb-ft ³)	9102 kg (20025 lb)		8816 kg (19395 lb)
Tongue Weights			
Empty			560 kg (1235 lb)
Loaded			1542 kg (3400 lb)
Ground Clearance:			
Empty	508 mm (20 in.)		495 mm (19.5 in.)
Loaded	457 mm (18 in.)		445 mm (17.5 in.)
Capacity (Bushels/Volume):			
Front Tank @ 95% Full		2.94 m ³ (83.1 bu)/(103.9 ft ³)	
Rear Tank @ 95% Full		4.78 m ³ (135 bu)/(168.8 ft ³)	
Front/Rear Ratio @ 95% Full		38.1%/61.9%	
Front Tank @ 100% Full		3.18 m ³ (89.8 bu)/(112.2 ft ³)	
Rear Tank @ 100% Full		4.95 m ³ (139.9 bu)/(174.9 ft ³)	
Front/Rear Ratio @ 100% Full		39.1%/60.9%	
Air System:			
Drive		Hydraulic	
Horsepower to Drive		4.5—10.4 kw (6—14 hp)	
Air Hoses:			
Major		63.5 mm (2.50 in.)	
Minor		25.4 mm (1.0 in.)	
Meters:			
Drive		Ground	
Number		2	
Tires:			
Front	16.5L x 16.1 6PR		
Rear (2)		23.1 x 26 10PR	

NOTE: Specifications and design subject to change without notice.

**Thank you very much for
your reading. Please Click
Here. Then Get COMPLETE
MANUAL. NO WAITING**



NOTE:

**If there is no response to
click on the link above,
please download the PDF
document first and then
click on it.**

SPECIFICATIONS—THIRD TANK

Dimensions:

Height	
on 170 bu Cart	2692 mm (106 in.)
on 230 bu Cart	2756 mm (108.5 in.)
Width (inc. ladder and drive box)	2108 mm (83 in.)
Weight: (inc. tank, frame, ladder, drive components and hoses)	447 kg (985 lb)

Capacity:

By Volume	.84 m ³ (24 bu) (30 ft ³)
By Weight	
Treflan/Heritage @ 85 lb/ft ³	1157 kg (2550 lb)
Rival/Avadex @ 45 lb/ft ³	612 kg (1350 lb)
Alfalfa @ 48 lb/ft ³	653 kg (1440 lb)
Canola @ 40 lb/ft ³	544 kg (1200 lb)
Edge @ 36 lb/ft ³	490 kg (1080 lb)

Air System:

Supply (From Seed Cart Plenum)	63.5 mm (2.50 in.)
Outlet (Four Run)	44.5 mm (1.75 in.)
Distributor Spacing	305 mm (12 in.)

Meters:

Drive	Ground
Number	2 (Split Flow-Standard)
Boost Option	20% increase in product application
Roller Diameter	76.2 mm (3 in.)

Dual Tire Option:

Recommended for 170 bu. Cart

Monitor:

Bin level, shaft rpm, air velocity, and application rate with alarm, if programmed.

NX,787GS,A1 -19-07NOV94

TRACTOR SPECIFICATIONS

Hydraulic System:

2250 psi (15514 kPa) (155 bar) MINIMUM
 Closed-center hydraulics, one tractor lever for hydraulic fan and auger control.

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TRACTOR HYDRAULIC SYSTEM REQUIREMENTS

Operation of the hydraulically driven fan requires tractor to have either a load sensing hydraulic system or a closed center hydraulic system with flow control. These types of hydraulic systems usually have large oil reservoirs and increased oil cooling capacity and deliver only the oil flow needed for the fan motor to consistently maintain fan speed at the selected RPMs without surging.

Tractors with open center hydraulic systems are not recommended for the following reasons:

- No means to control volume of oil flow.
- Excessive oil temperature.
- Decreased oil flow to fan motor during operation of other tractor control valves.
- Reduced oil flow to tractor power steering.

Required oil flow (Gallons Per Minute) can be determined by multiplying 0.0029 x suggested fan RPM. Hydraulic oil pressure will range between 1500—2000 psi for most normal applications. Hydraulic oil pressure to 2250 psi may be required for heavy product flow rates.

EXAMPLE:

$0.0029 \times 3500 \text{ rpm} = 10.15 \text{ GPM}$

IMPORTANT: In addition to the above requirements, tractor **MUST** also be equipped with a low pressure drain line connection (under 100 psi), for the fan motor case drain.

Make sure tractor hydraulic system meets all requirements.

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