

ORIGINAL INSTRUCTIONS

OPERATOR'S MANUAL

I40TL

Loader

Part number 90441890

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1 - GENERAL INFORMATION

Note to the owner

This manual contains information concerning the adjustment and maintenance of your new equipment. You have purchased a dependable machine, but only by proper care and operation can you expect to receive the performance and long service built into this equipment. Please have all operators read this manual carefully and keep it available for ready reference.

Your NEW HOLLAND dealer will instruct you in the general operation of your new equipment. (Refer to the 'Delivery Report' at the back of this manual.) Your dealer's staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your machine. New Holland Top Service is also available. Call 1-866-NEWHLND (1-866-639-4563) or email na.topservice@cnh.com.

Your NEW HOLLAND dealer carries a complete line of genuine NEW HOLLAND service parts. These parts are manufactured and carefully inspected to insure high quality and accurate fitting of any necessary replacement parts. Be prepared to give your dealer the model and product identification number of your new equipment when ordering parts. Locate these numbers now and record them below. Refer to the 'General Information' section of this manual for the location of the model and product identification numbers of your machine.

PLEASE RECORD THE FOLLOWING INFORMATION

Loader Model

Product Identification Number (PIN)

Date Purchased

Attachment Model

Attachment Model



This is the safety alert symbol. It is used with and without signal words to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

⚠ WARNING

Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.

Replace all shields before operating the machine.

Failure to comply could result in death or serious injury.

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Improvements

CNH America LLC is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

Intended use

The loader was designed to mount on NEW HOLLAND approved tractors. The loader is designed to load and move materials with a variety of buckets and approved NEW HOLLAND attachments.

DO NOT use this machine for any purpose or in any manner other than as described in the manual, decals, or other product safety information provided with the machine. These materials define the machine's intended use.

Use only approved accessories and attachments designed for your machine. Consult your dealer on changes, additions or modifications that may be required for your machine. Do not make any unauthorized modifications to your machine.

Installation and operation instructions for certain hydraulic valve sets, attachments and accessories may not be included in this operator's manual.

Use the publication received with the specific item. In the case of hydraulic valves, refer to the tractor operator's manual.

NOTICE: *Loader frames are designed for specific tractor models. Do not install a loader frame on a different model than specified, without obtaining approval from CNH America LLC.*

Operator's age

All persons who will be operating this machine shall possess a valid local vehicle operating permit and/or other applicable local age work permits.

WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE DEATH OR SERIOUS INJURY. MAKE SURE THAT EVERY OPERATOR:

-is instructed in the safe and proper use of this machine.

-reads and understands the operator's manual for this machine.

-reads and understands ALL safety signs on the machine.

Failure to comply could result in death or serious injury.

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Read and thoroughly understand this manual before operating this machine. If you are an inexperienced operator, study this manual and receive operating instructions from an experienced operator. Your dealer can assist you in learning machine operation and show you proper operating procedures. Keep this manual readily available, preferably with the machine. If the original manual is damaged, order a new one from your dealer.

Manual scope and required training level

Introduction to this manual

This manual gives information about the use of your NEW HOLLAND machine as intended and under the conditions foreseen by NEW HOLLAND during normal operation, routine service, and maintenance.

This manual does not contain all the information that relates to periodic service, conversions, and repairs that only trained service personnel can perform. Some of these activities may require appropriate facilities, technical skills, and/or tools that NEW HOLLAND does not supply with the machine.

The manual contains the chapters as shown on the Contents pages. See the Index at the end of this manual to locate specific items about your NEW HOLLAND machine.

Normal operation

Normal operation consists of the use of this machine for the purpose NEW HOLLAND intends by an operator that:

- Is familiar with the machine and any mounted equipment or towed equipment
- Complies with the information on operation and safe practices as specified by NEW HOLLAND in this manual and by the signs on the machine

Normal operation includes:

- Preparation and storage of the machine
- Addition and removal of ballast
- Connection and disconnection of mounted equipment and/or towed equipment
- Adjustment and configuration of the machine and equipment for the specific conditions of the job site, field, and/or crop
- Movement of components into and out of working positions

Routine service and maintenance

Routine service and maintenance consists of the daily activities necessary to maintain the proper machine function. The operator must:

- Be familiar with the machine characteristics
- Comply with the information on routine service and safe practices as specified by NEW HOLLAND in this manual and by the signs on the machine

Routine service can include:

- Fueling
- Cleaning
- Washing
- Topping up fluid levels

- Greasing
- Replacing consumable items such as light bulbs

Periodic service, conversions, and repairs

Periodic service consists of activities that are necessary to maintain the expected life of the NEW HOLLAND machine. These activities have defined intervals.

Trained service personnel familiar with the machine characteristics must perform these activities at the defined intervals. Trained service personnel must comply with the information on periodic service and safe practices as partly specified by NEW HOLLAND in this manual and/or other company literature.

Periodic service includes:

- Oil change service for the engine, hydraulic circuits, or transmission
- Periodic exchange of other substances or components as required

Conversion activities rebuild the NEW HOLLAND machine in a configuration that is appropriate for a specific job site, crop, and/or soil conditions (e.g., installation of dual wheels). Conversion activities must be done:

- By trained service personnel familiar with the machine characteristics
- By trained service personnel that comply with the information on conversion as partly specified by NEW HOLLAND in this manual, assembly instructions, and/or other company literature

Repair activities restore proper function to a NEW HOLLAND machine after a failure or degradation of performance. Dismantling activities occur during the scrapping and/or dismantling of the machine.

Trained service personnel familiar with the machine characteristics must perform these activities. Trained service personnel must comply with the information for repair as specified by NEW HOLLAND in the service manual.

Before you operate

Read this manual before you start the engine or operate this NEW HOLLAND machine. Contact your NEW HOLLAND dealer if:

- You do not understand any information in this manual
- You need more information
- You need assistance

All persons training to operate, or who will operate this NEW HOLLAND machine should be old enough to possess a valid local vehicle operating permit (or meet other applicable local age requirements). These persons must

demonstrate the ability to operate and service the NEW
HOLLAND machine in a correct and safe manner.

Ecology and the environment

Soil, air, and water quality is important for all industries and life in general. When legislation does not yet rule the treatment of some of the substances that advanced technology requires, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

Familiarize yourself with the relative legislation applicable to your country, and make sure that you understand this legislation. Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, anti-freeze, cleaning agents, etc., with regard to the effect of these substances on man and nature and how to safely store, use, and dispose of these substances. Your NEW HOLLAND dealer can also provide assistance.

Helpful hints

- Avoid the use of cans or other inappropriate pressurized fuel delivery systems to fill tanks. Such delivery systems may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of these products contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when you drain fluids such as used engine coolant mixtures, engine oil, hydraulic fluid, brake fluid, etc. Do not mix drained brake fluids or fuels with lubricants. Store all drained fluids safely until you can dispose of the fluids in a proper way that complies with all local legislation and available resources.
- Do not allow coolant mixtures to get into the soil. Collect and dispose of coolant mixtures properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your NEW HOLLAND dealer or air-conditioning specialist has a special extractor for this purpose and can recharge the system properly.
- Repair any leaks or defects in the engine cooling system or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding. Penetrating weld splatter may burn a hole or weaken hoses, allowing the loss of oils, coolant, etc.

International symbols

As a guide to the operation of the machine, various universal symbols have been utilized on the instruments, controls, switches, and fuse box. The symbols are shown below with an indication of their meaning.

	Thermostat starting aid		Radio		PTO		Position Control
	Alternator charge	KAM	Keep alive memory	N	Transmission in neutral		Draft Control
	Fuel level		Turn signals		Creeper gears		Accessory socket
	Automatic Fuel shut-off		Turn signals -one trailer		Slow or low setting		Implement socket
	Engine speed (RPM x 100)		Turn signals -two trailers		Fast or high setting		%age slip
	Hours recorded		Front wind-screen wash/wipe		Ground speed		Hitch raise (rear)
	Engine oil pressure		Rear wind-screen wash/wipe		Differential lock		Hitch lower (rear)
	Engine coolant temperature		Heater temperature control		Rear axle oil temperature		Hitch height limit (rear)
	Coolant level		Heater fan		Transmission oil pressure		Hitch height limit (front)
	Tractor lights		Air conditioner		FWD engaged		Hitch disabled
	Headlamp main beam		Air filter blocked		FWD dis-engaged		Hydraulic and transmission filters
	Headlamp dipped beam		Parking brake		Warning!		Remote valve extend
	Work lamps		Brake fluid level		Hazard warning lights		Remote valve retract
	Stop lamps		Trailer brake		Variable control		Remote valve float
	Horn		Roof beacon		Pressurised! Open carefully		Malfunction! See Operator's Manual
			Warning ! Corrosive substance				Malfunction! (alternative symbol)

Torque - Minimum Tightening Torques for Normal Assembly

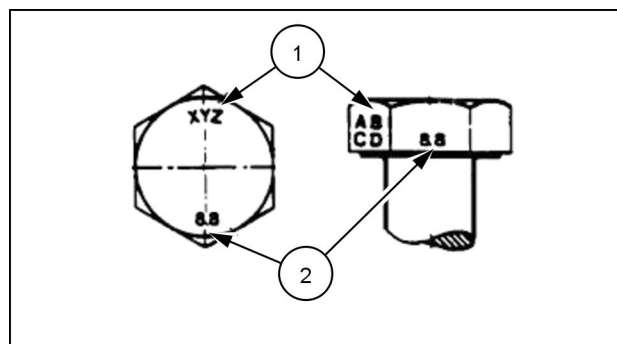
METRIC NON-FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

NOTE: M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.

IDENTIFICATION

Metric Hex head and carriage bolts, classes 5.6 and up

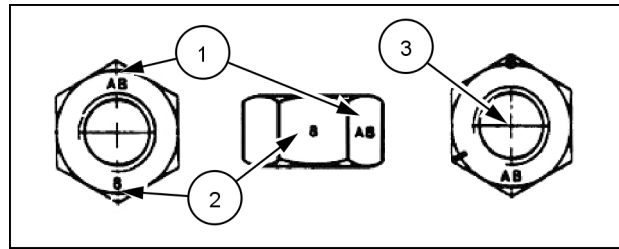


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1. Manufacturer's Identification

2. Property Class

Metric Hex nuts and locknuts, classes 05 and up



20083681 2

1. Manufacturer's Identification
2. Property Class
3. Clock Marking of Property Class and Manufacturer's Identification (Optional), i.e. marks **60°** apart indicate Class 10 properties, and marks **120°** apart indicate Class 8.

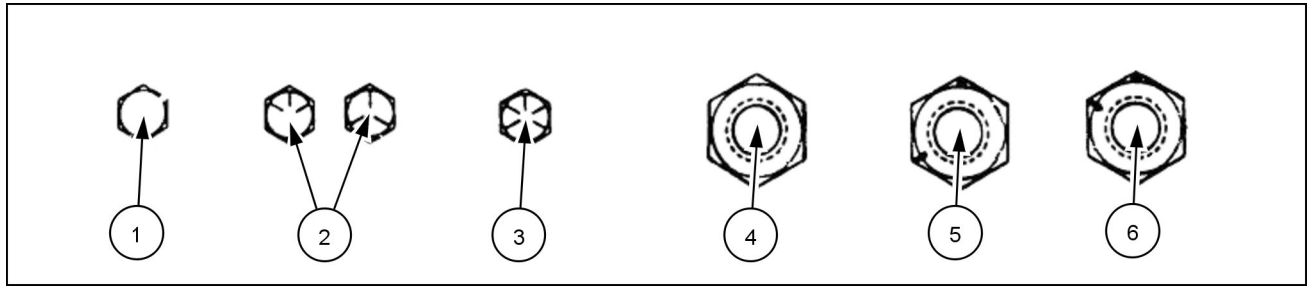
INCH NON-FLANGED HARDWARE

NOMINAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrB W/ Gr5 BOLT	LOCKNUT GrC W/ Gr8 BOLT
	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	8 N·m (71 lb in)	11 N·m (97 lb in)	12 N·m (106 lb in)	16 N·m (142 lb in)	8.5 N·m (75 lb in)	12.2 N·m (109 lb in)
5/16	17 N·m (150 lb in)	23 N·m (204 lb in)	24 N·m (212 lb in)	32 N·m (283 lb in)	17.5 N·m (155 lb in)	25 N·m (220 lb in)
3/8	30 N·m (22 lb ft)	40 N·m (30 lb ft)	43 N·m (31 lb ft)	57 N·m (42 lb ft)	31 N·m (23 lb ft)	44 N·m (33 lb ft)
7/16	48 N·m (36 lb ft)	65 N·m (48 lb ft)	68 N·m (50 lb ft)	91 N·m (67 lb ft)	50 N·m (37 lb ft)	71 N·m (53 lb ft)
1/2	74 N·m (54 lb ft)	98 N·m (73 lb ft)	104 N·m (77 lb ft)	139 N·m (103 lb ft)	76 N·m (56 lb ft)	108 N·m (80 lb ft)
9/16	107 N·m (79 lb ft)	142 N·m (105 lb ft)	150 N·m (111 lb ft)	201 N·m (148 lb ft)	111 N·m (82 lb ft)	156 N·m (115 lb ft)
5/8	147 N·m (108 lb ft)	196 N·m (145 lb ft)	208 N·m (153 lb ft)	277 N·m (204 lb ft)	153 N·m (113 lb ft)	215 N·m (159 lb ft)
3/4	261 N·m (193 lb ft)	348 N·m (257 lb ft)	369 N·m (272 lb ft)	491 N·m (362 lb ft)	271 N·m (200 lb ft)	383 N·m (282 lb ft)
7/8	420 N·m (310 lb ft)	561 N·m (413 lb ft)	594 N·m (438 lb ft)	791 N·m (584 lb ft)	437 N·m (323 lb ft)	617 N·m (455 lb ft)
1	630 N·m (465 lb ft)	841 N·m (620 lb ft)	890 N·m (656 lb ft)	1187 N·m (875 lb ft)	654 N·m (483 lb ft)	924 N·m (681 lb ft)

NOTE: For Imperial Units, **1/4 in** and **5/16 in** hardware torque specifications are shown in pound-inches. **3/8 in** through **1 in** hardware torque specifications are shown in pound-feet.

IDENTIFICATION

Inch Bolts and free-spinning nuts

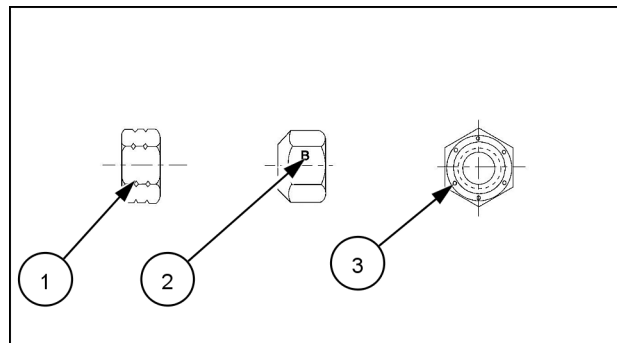


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Grade Marking Examples

SAE Grade Identification			
1	Grade 2 - No Marks	4	Grade 2 Nut - No Marks
2	Grade 5 - Three Marks	5	Grade 5 Nut - Marks 120° Apart
3	Grade 8 - Five Marks	6	Grade 8 Nut - Marks 60° Apart

Inch Lock Nuts, All Metal (Three optional methods)



20090268 4

Grade Identification

Grade	Corner Marking Method (1)	Flats Marking Method (2)	Clock Marking Method (3)
Grade A	No Notches	No Mark	No Marks
Grade B	One Circumferential Notch	Letter B	Three Marks
Grade C	Two Circumferential Notches	Letter C	Six Marks

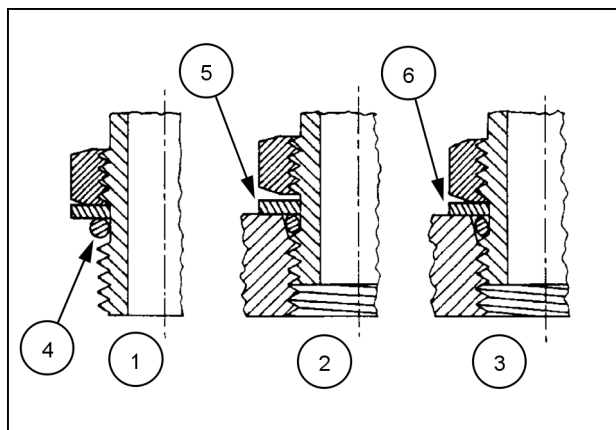
Torque - Standard torque data for hydraulics

INSTALLATION OF ADJUSTABLE FITTINGS IN STRAIGHT THREAD O RING BOSSES

1. Lubricate the O-ring by coating it with a light oil or petroleum. Install the O-ring in the groove adjacent to the metal backup washer which is assembled at the extreme end of the groove (4).
2. Install the fitting into the SAE straight thread boss until the metal backup washer contacts the face of the boss (5).

NOTE: Do not over tighten and distort the metal backup washer.

3. Position the fitting by turning out (counterclockwise) up to a maximum of one turn. Holding the pad of the fitting with a wrench, tighten the locknut and washer against the face of the boss (6).



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STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

TUBE NUTS FOR 37° FLARED FITTINGS				O-RING BOSS PLUGS ADJUSTABLE FITTING LOCKNUTS, SWIVEL JIC- 37° SEATS
SIZE	TUBING OD	THREAD SIZE	TORQUE	TORQUE
4	6.4 mm (1/4 in)	7/16-20	12 – 16 N·m (9 – 12 lb ft)	8 – 14 N·m (6 – 10 lb ft)
5	7.9 mm (5/16 in)	1/2-20	16 – 20 N·m (12 – 15 lb ft)	14 – 20 N·m (10 – 15 lb ft)
6	9.5 mm (3/8 in)	9/16-18	29 – 33 N·m (21 – 24 lb ft)	20 – 27 N·m (15 – 20 lb ft)
8	12.7 mm (1/2 in)	3/4-16	47 – 54 N·m (35 – 40 lb ft)	34 – 41 N·m (25 – 30 lb ft)
10	15.9 mm (5/8 in)	7/8-14	72 – 79 N·m (53 – 58 lb ft)	47 – 54 N·m (35 – 40 lb ft)
12	19.1 mm (3/4 in)	1-1/16-12	104 – 111 N·m (77 – 82 lb ft)	81 – 95 N·m (60 – 70 lb ft)
14	22.2 mm (7/8 in)	1-3/16-12	122 – 136 N·m (90 – 100 lb ft)	95 – 109 N·m (70 – 80 lb ft)
16	25.4 mm (1 in)	1-5/16-12	149 – 163 N·m (110 – 120 lb ft)	108 – 122 N·m (80 – 90 lb ft)
20	31.8 mm (1-1/4 in)	1-5/8-12	190 – 204 N·m (140 – 150 lb ft)	129 – 158 N·m (95 – 115 lb ft)
24	38.1 mm (1-1/2 in)	1-7/8-12	217 – 237 N·m (160 – 175 lb ft)	163 – 190 N·m (120 – 140 lb ft)
32	50.8 mm (2 in)	2-1/2-12	305 – 325 N·m (225 – 240 lb ft)	339 – 407 N·m (250 – 300 lb ft)

These torques are not recommended for tubes of 12.7 mm (1/2 in) OD and larger with wall thickness of 0.889 mm (0.035 in) or less. The torque is specified for 0.889 mm (0.035 in) wall tubes on each application individually.

cleaner and apply hydraulic sealant to the 37° flare and the threads.

Install fitting and torque to specified torque, loosen fitting and retorquer to specifications.

Before installing and torquing 37° flared fittings, clean the face of the flare and threads with a clean solvent or Loctite

PIPE THREAD FITTING TORQUE

Before installing and tightening pipe fittings, clean the threads with a clean solvent or Loctite cleaner and apply sealant for all fittings including stainless steel or for most metal fittings. For high filtration/zero contamination systems use .

PIPE THREAD FITTING	
Thread Size	Torque (Maximum)
1/8-27	13 N·m (10 lb ft)
1/4-18	16 N·m (12 lb ft)
3/8-18	22 N·m (16 lb ft)
1/2-14	41 N·m (30 lb ft)
3/4-14	54 N·m (40 lb ft)

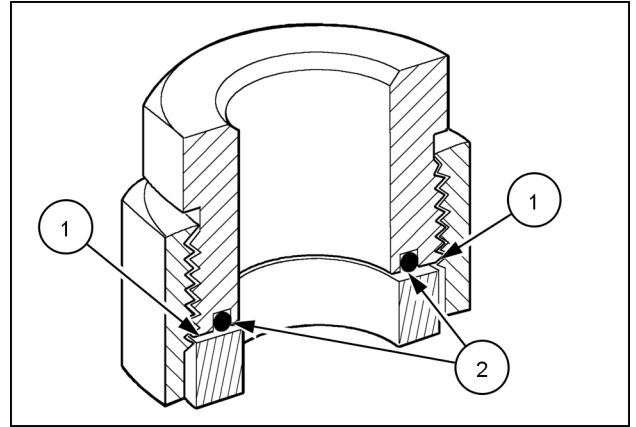
INSTALLATION OF ORFS (O-RING FLAT FACED) FITTINGS

When installing ORFS fittings thoroughly clean both flat surfaces of the fittings **(1)** and lubricate the O-ring **(2)** with light oil. Make sure both surfaces are aligned properly. Torque the fitting to specified torque listed throughout the repair manual.

NOTICE: If the fitting surfaces are not properly cleaned, the O-ring will not seal properly. If the fitting surfaces are not properly aligned, the fittings may be damaged and will not seal properly.

NOTICE: Always use genuine factory replacement oils and filters to ensure proper lubrication and filtration of engine and hydraulic system oils.

The use of proper oils, grease, and keeping the hydraulic system clean will extend machine and component life.

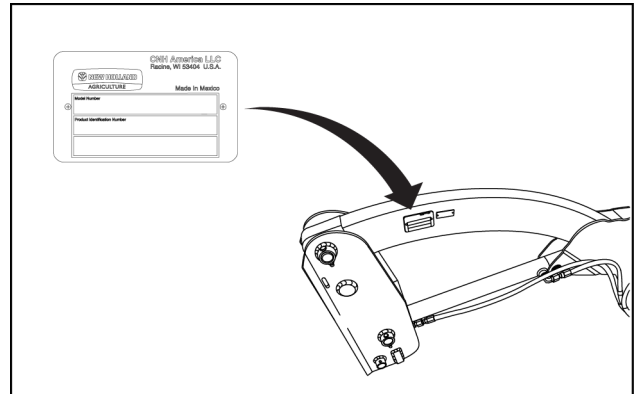


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Product identification

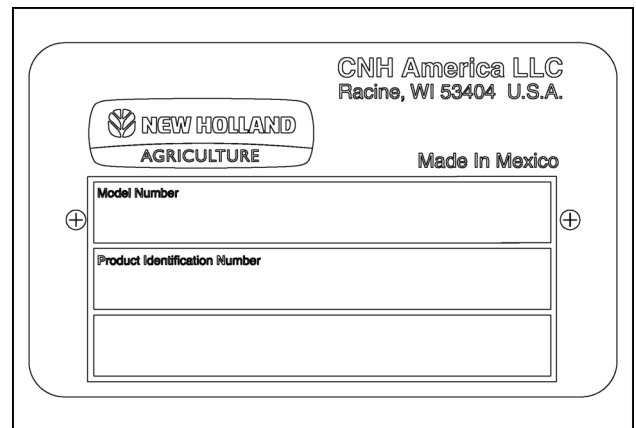
PRODUCT IDENTIFICATION PLATE

A product identification plate is located on the inside of the left-hand loader frame.



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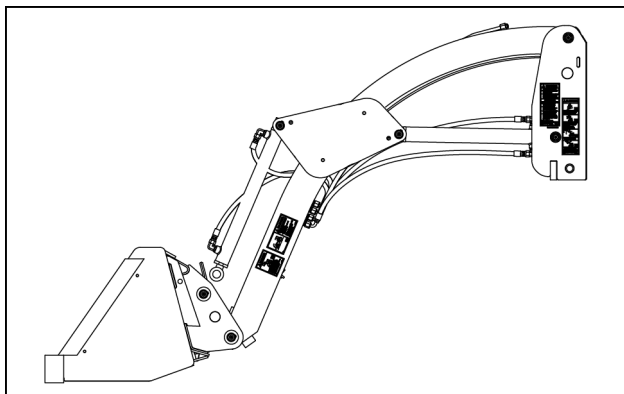
The identification numbers on this plate are important in the event that your loader should require future service.



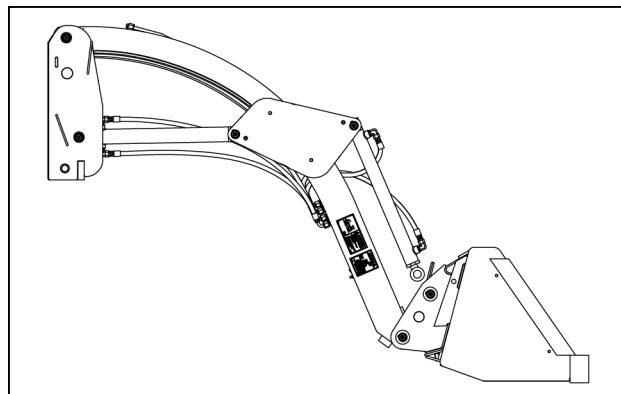
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Machine orientation

NOTE: On this equipment, left-hand and right-hand are determined by standing behind the unit, looking in the direction of travel.

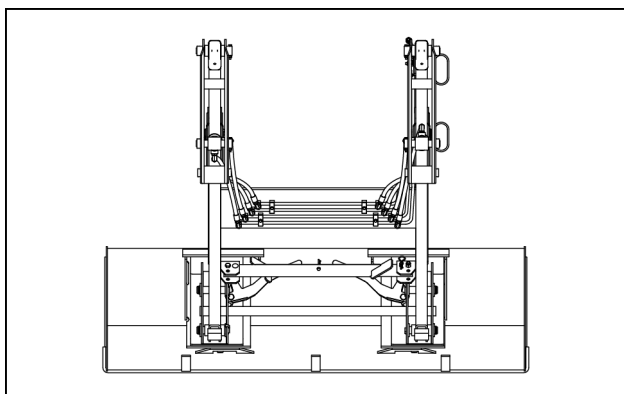


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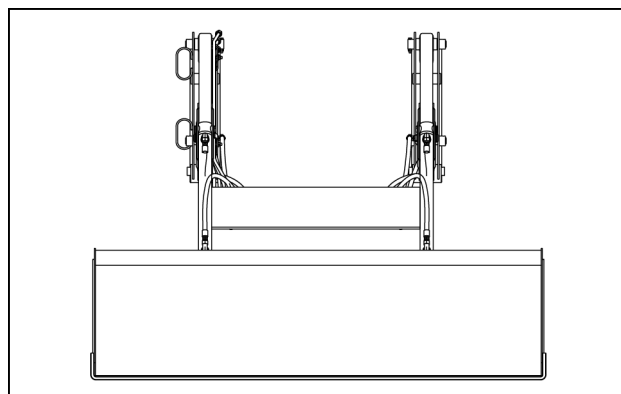
NHIL15CT00503AA 2

Left-hand view



NHIL15CT00505AA 3

Right-hand view



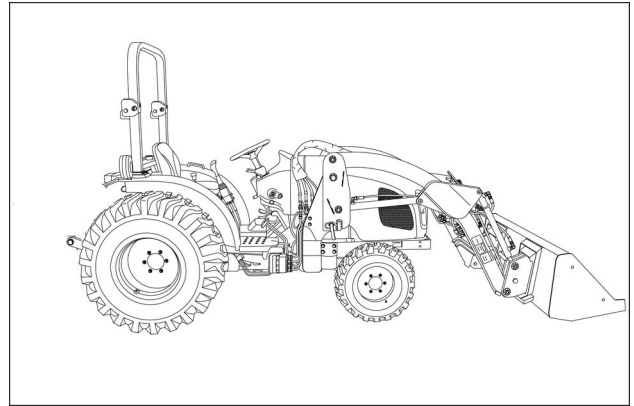
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Rear view

Front view

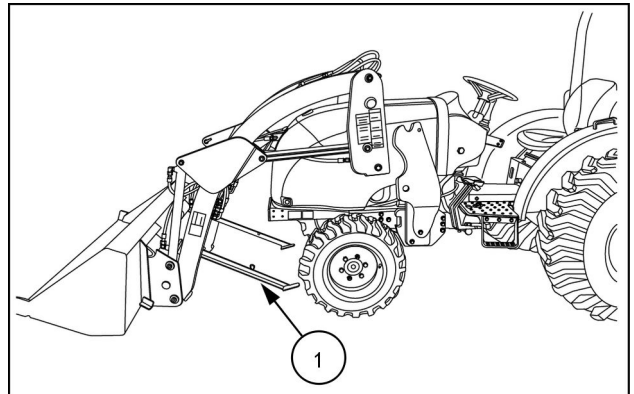
Product overview

The 140TL loader is designed to be compatible with the **Workmaster™** Hydro-Static Transmission (HST) or mechanical transmission compact tractors.



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The loader is a quick attach unit, and no tools are required to mount or dismount the loader from the tractor. The loader also has its own park stand **(1)**. A pallet fork and a complete line of heavy duty and material buckets is available. As the capacities of the buckets have been matched to tractor size, the operator can choose the bucket best suited for the tractor and the job. Bucket recommendations are listed in the Specifications section of this manual.



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2 - SAFETY INFORMATION

Safety rules and signal word definitions

Personal safety



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual and on machine safety signs, you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

⚠ DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury. The color associated with DANGER is RED.

⚠ WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury. The color associated with WARNING is ORANGE.

⚠ CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury. The color associated with CAUTION is YELLOW.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: Notice indicates a situation that, if not avoided, could result in machine damage or property damage. The color associated with Notice is BLUE.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine damage or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules

General safety rules

Use caution when you operate the machine on slopes. Raised equipment, full tanks and other loads will change the center of gravity of the machine. The machine can tip or roll over when near ditches and embankments or uneven surfaces.

Never permit anyone other than the operator to ride on the machine.

Never operate the machine under the influence of alcohol or drugs, or while you are otherwise impaired.

When digging or using ground-engaging attachments, be aware of buried cables. Contact local utilities to determine the locations of services.

Pay attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety.

Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin, causing serious injury or infection.

- DO NOT use your hand to check for leaks. Use a piece of cardboard or paper.
- Stop the engine, remove the key, and relieve the pressure before you connect or disconnect fluid lines.
- Make sure that all components are in good condition. Tighten all connections before you start the engine or pressurize the system.
- If hydraulic fluid or diesel fuel penetrates the skin, seek medical attention immediately.
- Continuous long term contact with hydraulic fluid may cause skin cancer. Avoid long term contact and wash the skin promptly with soap and water.

Keep clear of moving parts. Loose clothing, jewelry, watches, long hair, and other loose or hanging items can become entangled in moving parts.

Wear protective equipment when appropriate.

DO NOT attempt to remove material from any part of the machine while it is being operated or while components are in motion.

Make sure that all guards and shields are in good condition and properly installed before you operate the machine. Never operate the machine with shields removed. Always close access doors or panels before you operate the machine.

Dirty or slippery steps, ladders, walkways, and platforms can cause falls. Make sure these surfaces remain clean and clear of debris.

A person or pet within the operating area of a machine can be struck or crushed by the machine or its equipment. DO NOT allow anyone to enter the work area.

Raised equipment and/or loads can fall unexpectedly and crush persons underneath. Never allow anyone to enter the area underneath raised equipment during operation.

Always keep windows, mirrors, all lighting, and Slow-Moving Vehicle (SMV) emblem clean to provide the best possible visibility while you operate the machine.

Operate controls only when seated in the operator's seat, except for those controls expressly intended for use from other locations.

Before you leave the machine:

1. Park the machine on a firm, level surface.
2. Put all controls in neutral or park lock position.
3. Engage the parking brake. Use wheel chocks if required.
4. Lower all hydraulic equipment — Implements, header, etc.
5. Turn off the engine and remove the key.

When, due to exceptional circumstances, you would decide to keep the engine running after you leave the operator's station, then you must follow these precautions:

General maintenance safety

Keep the area used for servicing the machine clean and dry. Clean up spilled fluids.

Service the machine on a firm, level surface.

Install guards and shields after you service the machine.

Close all access doors and install all panels after servicing the machine.

Do not attempt to clean, lubricate, clear obstructions, or make adjustments to the machine while it is in motion or while the engine is running.

Always make sure that working area is clear of tools, parts, other persons and pets before you start operating the machine.

Unsupported hydraulic cylinders can lose pressure and drop the equipment, causing a crushing hazard. Do not leave equipment in a raised position while parked or during service, unless the equipment is securely supported.

Jack or lift the machine only at jack or lift points indicated in this manual.

Incorrect towing procedures can cause accidents. When you tow a disabled machine follow the procedure in this manual. Use only rigid tow bars.

Stop the engine, remove the key, and relieve pressure before you connect or disconnect fluid lines.

Stop the engine and remove the key before you connect or disconnect electrical connections.

Scalding can result from incorrect removal of coolant caps. Cooling systems operate under pressure. Hot coolant can spray out if you remove a cap while the system is hot. Allow the system to cool before you remove the cap. When you remove the cap, turn it slowly to allow

1. Bring the engine to low idle speed.
2. Disengage all drive systems.

3. **WARNING**

Some components may continue to run down after you disengage drive systems. Make sure all drive systems are fully disengaged. Failure to comply could result in death or serious injury.

W0113A

Shift the transmission into neutral.

4. Apply the parking brake.

pressure to escape before you completely remove the cap.

Replace damaged or worn tubes, hoses, electrical wiring, etc.

The engine, transmission, exhaust components, and hydraulic lines may become hot during operation. Take care when you service such components. Allow surfaces to cool before you handle or disconnect hot components. Wear protective equipment when appropriate.

When welding, follow the instructions in the manual. Always disconnect the battery before you weld on the machine. Always wash your hands after you handle battery components.

Make sure that tires are correctly inflated. Do not exceed any recommended load or pressure. Follow the instructions in the manual for proper tire inflation.

Tires are heavy. Handling tires without proper equipment could cause death or serious injury.

Never weld on a wheel with a tire installed. Always remove the tire completely from the wheel prior to welding.

Always have a qualified tire technician service the tires and wheels. If a tire has lost all pressure, take the tire and wheel to a tire shop or your dealer for service. Explosive separation of the tire can cause serious injury.

DO NOT weld to a wheel or rim until the tire is completely removed. Inflated tires can generate a gas mixture with the air that can be ignited by high temperatures from welding procedures performed on the wheel or rim. Removing the air or loosening the tire on the rim (breaking the bead) will NOT eliminate the hazard. This condition can exist whether tires are inflated or deflated. The tire MUST be completely removed from the wheel or rim prior to welding the wheel or rim.

Driving on public roads and general transportation safety

Comply with local laws and regulations.

Use appropriate lighting to meet local regulations.

2 - SAFETY INFORMATION

Make sure that the SMV emblem is visible.

Make sure that the brake pedal latch is engaged. You must lock brake pedals together for road travel.

Use safety chains for trailed equipment when safety chains are provided with machine or equipment.

Lift implements and attachments high enough above ground to prevent accidental contact with road.

When you transport equipment or a machine on a transport trailer, make sure that it is properly secured. Be sure the SMV on the equipment or machine is covered while being transported on a trailer.

Be aware of overhead structures or power lines and make sure that the machine and/or attachments can pass safely under.

Travel speed should be such that you maintain complete control and machine stability at all times.

Slow down and signal before turning.

Pull over to allow faster traffic to pass.

Follow correct towing procedure for equipment with or without brakes.

Seat belts

Seat belts must be worn at all times.

Seat belt inspection and maintenance:

- Keep seat belts in good condition.
- Keep sharp edges and items that can cause damage away from the belts.
- Periodically check belts, buckles, retractors, tethers, slack take-up system, and mounting bolts for damage and wear.
- Replace all parts that have damage or wear.
- Replace belts that have cuts that can make the belt weak.

- Check that bolts are tight on the seat bracket or mounting.
- If the belt is attached to the seat, make sure that the seat or seat brackets are mounted securely.
- Keep seat belts clean and dry.
- Clean belts only with soap solution and warm water.
- Do not use bleach or dye on the belts because this can make the belts weak.

Personal Protective Equipment (PPE)

Wear Personal Protective Equipment (PPE) such as hard hat, eye protection, heavy gloves, hearing protection, protective clothing, etc.

Do Not Operate tag

Before you start servicing the machine, attach a 'Do Not Operate' warning tag to the machine in an area that will be visible.

Hazardous chemicals

If you are exposed to or come in contact with hazardous chemicals you can be seriously injured. The fluids, lubricants, paints, adhesives, coolant, etc. required for the function of your machine can be hazardous. They may be attractive and harmful to domestic animals as well as humans.

Material Safety Data Sheets (MSDS) provide information about the chemical substances within a product, safe handling and storage procedures, first aid measures, and procedures to take in the event of a spill or accidental release. MSDS are available from your dealer.

Before you service your machine check the MSDS for each lubricant, fluid, etc. used in this machine. This information indicates the associated risks and will help you service the machine safely. Follow the information in the

MSDS, and on manufacturer containers, as well as the information in this manual, when you service the machine.

Dispose of all fluids, filters, and containers in an environmentally safe manner according to local laws and regulations. Check with local environmental and recycling centers or your dealer for correct disposal information.

Store fluids and filters in accordance with local laws and regulations. Use only appropriate containers for the storage of chemicals or petrochemical substances.

Keep out of reach of children or other unauthorized persons.

Applied chemicals require additional precautions. Obtain complete information from the manufacturer or distributor of the chemicals before you use them.

Utility safety

When digging or using ground-engaging equipment, be aware of buried cables and other services. Contact your local utilities or authorities, as appropriate, to determine the locations of services.

Make sure that the machine has sufficient clearance to pass in all directions. Pay special attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

Retract raised or extended components, if necessary. Remove or lower radio antennas or other accessories. Should a contact between the machine and an electric

power source occur, the following precautions must be taken:

- Stop the machine movement immediately.
- Apply the parking brake, stop the engine, and remove the key.
- Check if you can safely leave the cab or your actual position without contact with electrical wires. If not, stay in your position and call for help. If you can leave your position without touching lines, jump clear of the machine to make sure that you do not make contact with the ground and the machine at the same time.
- Do not permit anyone to touch the machine until power has been shut off to the power lines.

Electrical storm safety

Do not operate machine during an electrical storm.

If you are on the ground during an electrical storm, stay away from machinery and equipment. Seek shelter in a permanent, protected structure.

If an electrical storm should strike during operation, remain in the cab. Do not leave the cab or operator's platform. Do not make contact with the ground or objects outside the machine.

Mounting and dismounting

Mount and dismount the machine only at designated locations that have handholds, steps, and/or ladders.

Do not jump off of the machine.

Make sure that steps, ladders, and platforms remain clean and clear of debris and foreign substances. Injury may result from slippery surfaces.

Face the machine when you mount and dismount the machine.

Maintain a three-point contact with steps, ladders, and handholds.

Never mount or dismount from a moving machine.

Do not use the steering wheel or other controls or accessories as handholds when you enter or exit the cab or operator's platform.

Working at heights

When the normal use and maintenance of the machine requires you to work at heights:

- Correctly use installed steps, ladders, and railings.
- Never use ladders, steps, or railings while the machine is moving.

- Do not stand on surfaces that are not designated as steps or platforms.

Do not use the machine as a lift, ladder, or platform for working at heights.

Lifting and overhead loads

Never use loader buckets, forks, etc. or other lifting, handling, or digging equipment to lift persons.

Do not use raised equipment as a work platform.

Know the full area of movement of the machine and equipment and do not enter or permit anyone to enter the area of movement while the machine is in operation.

Never enter or permit anyone to enter the area underneath raised equipment. Equipment and/or loads can fall unexpectedly and crush persons underneath it.

Do not leave equipment in raised position while parked or during service, unless securely supported. Hydraulic cylinders must be mechanically locked or supported if they are left in a raised position for service or access.

Loader buckets, forks, etc. or other lifting, handling, or digging equipment and its load will change the center of gravity of the machine. This can cause the machine to tip on slopes or uneven ground.

Load items can fall off the loader bucket or lifting equipment and crush the operator. Care must be taken when lifting a load. Use proper lifting equipment.

Do not lift load higher than necessary. Lower loads to transport. Remember to leave appropriate clearance to the ground and other obstacles.

Equipment and associated loads can block visibility and cause an accident. Do not operate with insufficient visibility.

Precautionary Statements



A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so.

Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and follow safety precautions.

General

1. Read the Operator's Manual carefully before using the tractor or loader. Lack of operating knowledge can lead to accidents.
2. Replace damaged or illegible safety decals. See the Specifications section of this manual for required decals.
3. Operate the tractor and loader only from the operator's seat.
2. Do not lift or carry anybody on the loader or in the bucket or attachment.
3. Never allow anyone to get under the loader bucket or reach through the lift arms when the bucket is raised.
4. Do not walk or work under a raised loader, bucket, or attachment unless it is securely blocked or held in position.
5. Avoid overhead wires and obstacles when the loader is raised. Contacting electrical lines can cause electrocution.

The Tractor

1. Use an approved roll bar and seat belt for safe operation. Overturning a tractor without a roll bar can result in death or injury. If your tractor is not equipped with a roll bar and seat belt, see your tractor dealer.
2. Equip your tractor with FOPS (Falling Object Protective Structure) and seat belts before installing or operating the loader.
3. Use the loader only on a tractor with the ROPS installed. Whenever possible, operate the tractor and loader with the ROPS in the upright and locked position and the seat belt fastened and correctly adjusted. When operating in restricted overhead environment with the ROPS folded down, do not wear the seat belt. Always return the ROPS to the upright and locked position as soon as operating conditions permit.
4. Add the recommended wheel ballast and/or rear weight as recommended in the owner's manual to provide good stability.
5. Move the wheels to the tractor manufacturer's widest recommended settings to increase stability.
6. Move and turn the tractor at low speeds.
6. Make sure all dismounted loaders are on a hard, level surface.
7. Do not repair, remove, or replace any parts of the loader while it is in the dismounted position.

Operating the Loader

1. It is the loader owner's responsibility to be certain that anyone operating the loader reads this manual first to be aware of the safe way of operating the loader.
2. Exercise caution when operating the loader with a raised, loaded bucket or fork.
3. Avoid loose fill, rocks, and holes. They can be dangerous for loader operation or movement.
4. Use care to maintain proper stability when operating on steep grades. Always carry the bucket in the lowest position possible.
5. Allow for the loader length when making turns.
6. Stop the loader arms gradually when lowering or lifting.
7. Use caution when handling loose or shiftable loads.
8. Carry the bucket at a low position during transport for better visibility.
9. When parking or servicing, lower the bucket to the ground, stop the engine, and set the park brakes before leaving the tractor seat.

The Loader

1. Improper use of a loader can cause serious injury or death.

10. Operate the loader controls only when properly seated at the controls.
11. Using front end loaders without special attachments for handling large heavy objects such as large round or rectangular bales, logs, and oil drums is NOT RECOMMENDED.
12. Handling large heavy objects can be extremely dangerous due to:
 - danger of rolling the tractor over.
 - danger of upending the tractor.
 - danger of the object rolling or sliding down the loader arms onto the operator.
13. If you must perform this sort of work (see #12 above), protect yourself by:
 - using the proper attachment.
 - never lifting the load higher than necessary to clear the ground when moving.
 - ballasting the tractor rear to compensate for the load.
 - never lifting large objects with equipment that does not have an anti-rollback device.
 - moving slowly and carefully, avoiding rough terrain.
14. Loader lift capacity and break-away capacity diminish as the loader height is increased. Use care not to grasp more material than the loader is designed to handle.

Maintenance

1. When servicing or replacing the pins in the cylinder ends, bucket, etc., always use a brass drift and hammer. Failure to do so could result in injury from flying metal fragments.
2. Do not modify or alter, or permit anyone else to modify or alter, the loader or any of its components or any loader function without first consulting a New Holland dealer. If you have any questions regarding loader modifications, contact New Holland .
3. Always wear safety goggles when servicing or repairing the machine.
4. Escaping hydraulic/diesel fluid under pressure can penetrate the skin, causing serious injury.
 - DO NOT use your hand to check for leaks.
 - Use a piece of cardboard or paper to search for leaks.
 - Stop the engine and relieve the pressure before connecting or disconnecting the hydraulic or diesel lines.
 - Tighten all connections before starting the engine or pressuring the lines.
 - If any fluid is injected into the skin, obtain medical attention IMMEDIATELY or gangrene may result.
5. Do not tamper with the relief valve setting. The relief valve is preset at the factory. Changing the setting can cause overloading the loader and tractor, and serious operator injury may result.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Safety signs

Safety signs are placed on your machine as a guide for your safety. Walk around the machine and note the content and location of these decals before operating your machine

Following is a listing of Safety signs and locations. Read and understand them before operating the machine

Safety sign inspection and maintenance:

1. Cleaning Safety signs
 1. Keep Safety signs clean and legible.
 2. Use a soft cloth, water, and a gentle detergent.
 3. Do not use solvent, gasoline or other harsh chemicals to clean Safety signs. Solvents, gasoline, and other harsh chemicals may damage or remove Safety signs.
2. Replace all Safety signs that are damaged, missing, painted over or illegible. See your NEW HOLLAND dealer for replacement Safety signs.
3. If a Safety sign is on a part that is replaced, make sure the Safety sign is installed on the new part.

Universal or informational Safety signs

Decals which display the “Read Operator’s Manual” symbol are intended to direct the operator to the Operator’s Manual for further information regarding maintenance, adjustments, and/or procedures for particular areas of the

machine. When a Safety sign displays this symbol  refer to the appropriate page of the Operator’s Manual.

2 - SAFETY INFORMATION

DANGER

Use ROPS and seat belt at all times.

Add recommended rear ballast.

Operate tractor at low speeds.

Do not handle large objects unless tractor is equipped with proper attachments.

Operate loader only with approved hydraulic valves.

Handle raised loads carefully.

Carry loads low during transport.

Keep loader away from overhead electric lines.

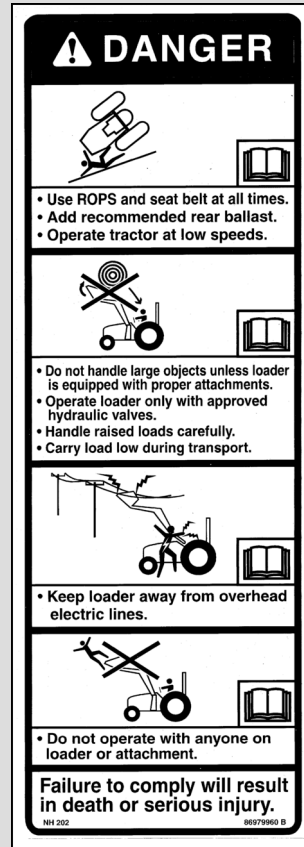
Do not operate with anyone on loader or attachment.

Failure to comply will result in death or serious injury.

Quantity 1

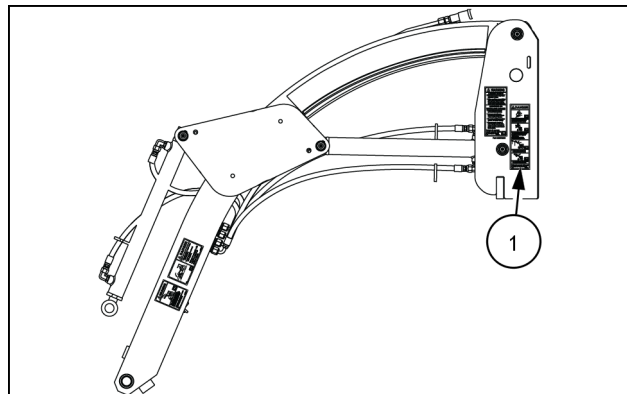
English 86979960

French 87045261



86979960B 1

(1) Left-hand side, outside face of mount upright



NHIL15CT00499AA 2

WARNING
LOADER SAFETY

Operate loader only from operator's seat.
When parking or servicing unit, lower the bucket to the ground, stop engine, and set the parking brake.

REMOVING OR INSTALLING LOADER.

Park detached loader on hard level ground.

Have an attachment mounted to loader when removed from tractor.

Do not permit bystanders within 10 feet of loader.

Do not repair loader if it is not mounted on tractor.

Loss of oil or removal of parts could cause loader to collapse.

Failure to comply could result in death or serious injury.

Quantity 1
English 86979962
French 87045260

⚠ WARNING

LOADER SAFETY

- Operate loader only from operator's seat.
- When parking or servicing unit, lower attachment to the ground, stop engine, and set the parking brake.

**REMOVING OR
INSTALLING LOADER**

- Park detached loader on hard level ground.
- Have an attachment mounted to loader when removed from tractor.
- Do not permit bystanders within 10 feet of loader.
- Do not repair loader if not mounted on tractor. Loss of oil or removal of parts could cause loader to collapse.

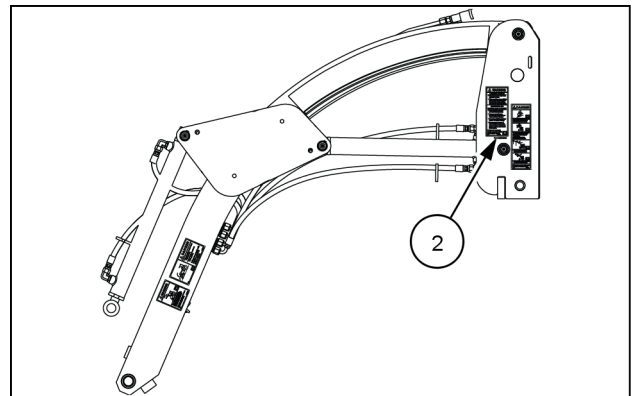
Failure to comply could result in death or serious injury.

NH 202
86979962 B



86979962B 3

(2) Left-hand side rear of mount upright.



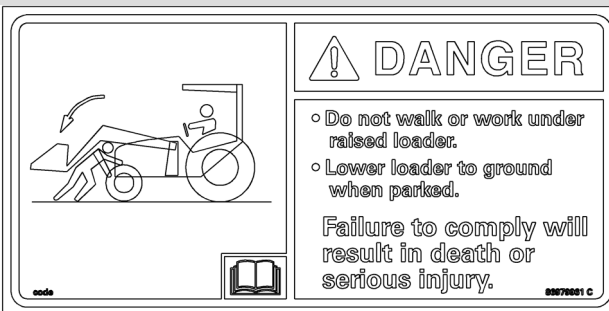
NHIL15CT00499AA 4

2 - SAFETY INFORMATION

Danger

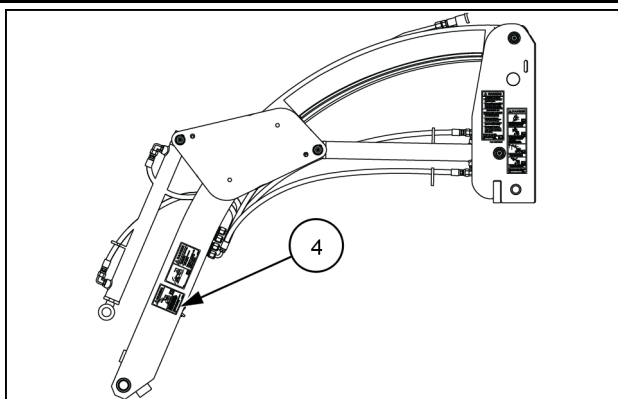
Do not walk or work under raised loader.
Lower loader to ground when parked.
Failure to comply will result in death or serious injury.

Quantity 2
English 86979961
French 87045259



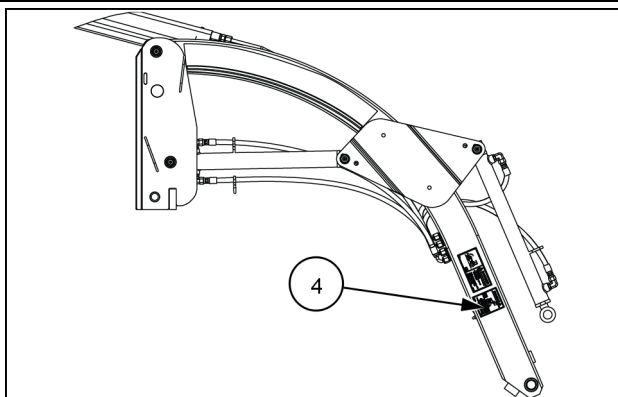
86979961 5

(4) Left-hand side loader boom.



NHIL15CT00499AA 6

(4) Right-hand side loader boom.



NHIL15CT00498AA 7

WARNING

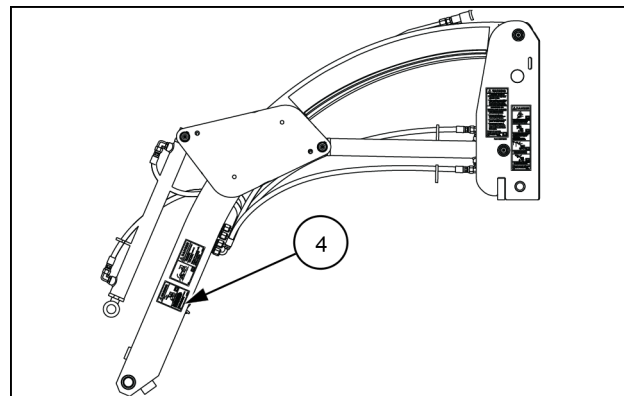
To avoid injury or death from falling attachments, make sure both lock pins are fully engaged and protruding through frame. Failure to comply could result in death or serious injury.

Quantity 2
English 84402769
French 47510444



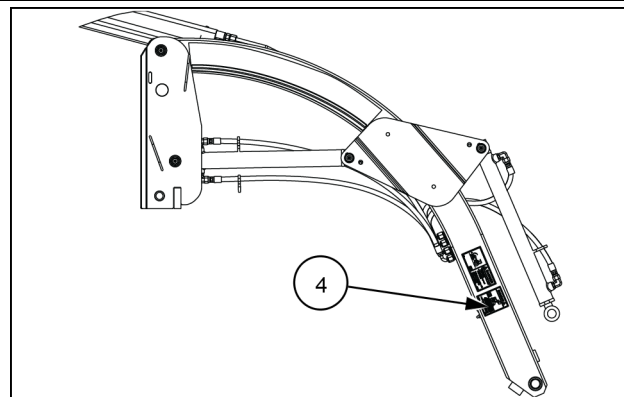
84402769 8

(4) Left-hand side loader boom.



NHIL15CT00499AA 9

(4) Right-hand side loader boom.



NHIL15CT00498AA 10

Safety features

See **1-14** for safety feature description of the park stand.

3 - OPERATING INSTRUCTIONS

COMMISSIONING THE UNIT

Machine preparation

Machine Preparation

⚠ WARNING

Improper operation or service of this machine can result in an accident. Read and understand the **SAFETY INFORMATION** Section before you perform any maintenance, service, or repairs. Read and understand the specific service procedures for the components you plan to work with before you start servicing the machine. Failure to comply could result in death or serious injury.

W0138A

Inspection

Thoroughly inspect the fully assembled loader and tractor prior to operation

1. Check all hardware to ensure that it has been properly installed and tightened. Check that the hardware is tight after the first 10 hours of operation and every 50 hours thereafter.
2. Check the tire pressure. Refer to the Specifications section of this manual for recommended pressures.
3. Review the lubrication schedule to be certain that all pivot points have been properly lubricated.
4. Inspect all hose and tubing connections for leaks.

Installing Counterbalance

⚠ WARNING

Roll-over hazard!
Before operating a tractor with a loader, ballast the tractor-loader combination so that a minimum of 25 percent of the total weight is on the rear wheels, with the rated load in the bucket in maximum forward position. Failure to comply could result in death or serious injury.

W0291A

Sufficient weight can be added to the tractor by filling the rear tires with liquid ballast, or by installing a three-point hitch counterweight. If three-point hitch counterweight is used, carry it as low as possible at all times to maximize stability. The effective counterbalance weight of mounted rear equipment is determined by multiplying the actual weight of the equipment by 1.50.

EXAMPLE: If equipment weighing 400 lbs is attached to the rear of the tractor, multiply 400 lbs by 1.50. This equals 600 lbs of effective counterbalance weight.

Make sure that the FOPS (Falling Object Protective Structure) is installed.

Refer to the counterbalance chart in the Specifications section of this manual.

Installing the loader

⚠ WARNING

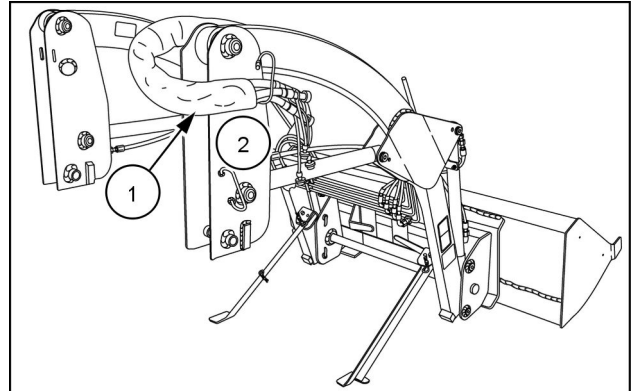
Crushing hazard!

**Never stand between the front of the tractor and the loader cross tubes.
Failure to comply could result in death or serious injury.**

W1075A

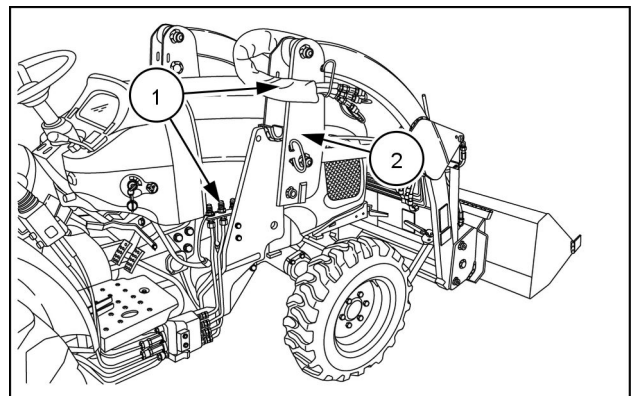
Preparing to install the loader

1. Pull the hydraulic hoses (1), to the outside of the loader frame (2), so as not to damage them during the installation of the loader.



NHIL16CT02003AA 1

2. Start the tractor engine and release the parking brake.
3. Slowly drive the tractor squarely into the loader (2) until the loader is close enough to connect the hydraulic hoses (1) without pulling strain on the hydraulic hoses.
4. Engage the tractor brakes and turn off the engine.
5. Connect the hydraulic hoses.



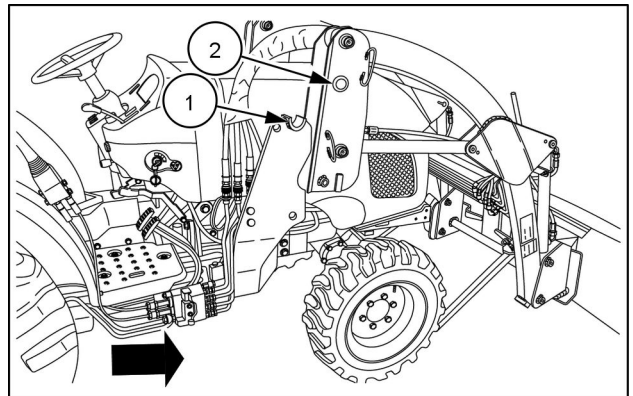
NHIL16CT02166AA 2

Hydraulic hose connection

NOTE: See 3-6

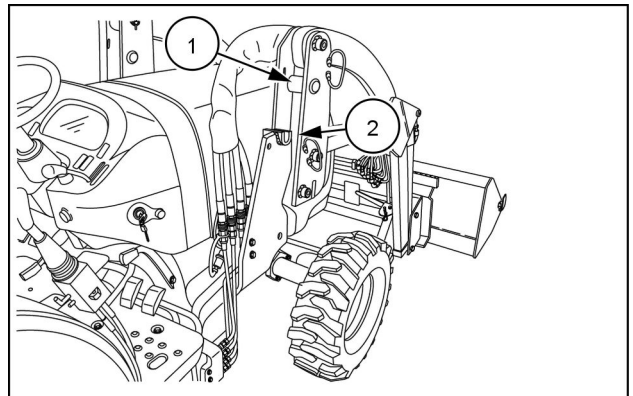
Installation of the loader

1. Start the tractor engine, release the brakes, and slowly drive the tractor forward until the tower saddle pins **(2)**, are just forward and above the mount bracket saddles **(1)**.



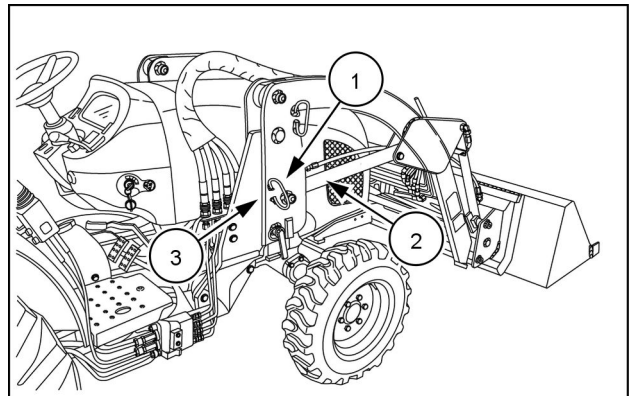
NHIL16CT02172AA 3

2. Gradually activate the bucket control lever to extend the bucket cylinders which will direct the tower saddle pin **(1)** down into the mount bracket saddle **(2)**.



NHIL16CT02173AA 4

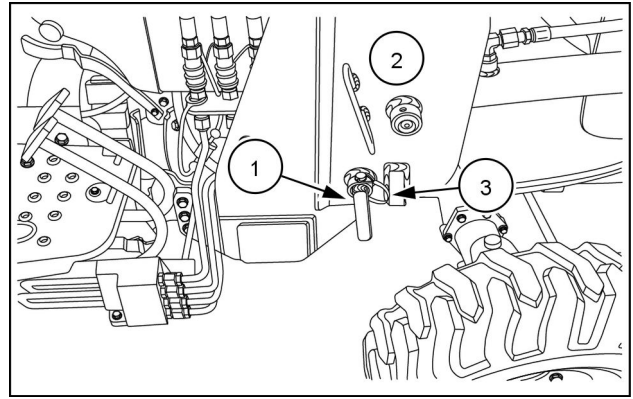
3. Gradually activate the lift control lever to extend the lift cylinders **(2)** until the stop plates **(1)** are in contact with the loader mount bracket saddles **(3)**.
4. When the tower saddle pins are fully engaged with the mount bracket saddles, engage the tractor brakes and shut off the engine.



NHIL16CT02174AA(1) 5

5. Install the pins (1) from the outside side of loader frame (2).
6. Secure the pins with the safety pins (3).

NOTICE: Repeat this step for the opposite side.



NHIL16CT02165AA 6

Stowing the park stand

⚠ WARNING

Avoid injury!

To install or remove the park stand, raise the loader and then set the loader down on its cutting edge (the bottom surface of the bucket should be vertical). This safely supports the boom while the operator installs or removes the park stand.

Failure to comply could result in death or serious injury.

W1248A

⚠ WARNING

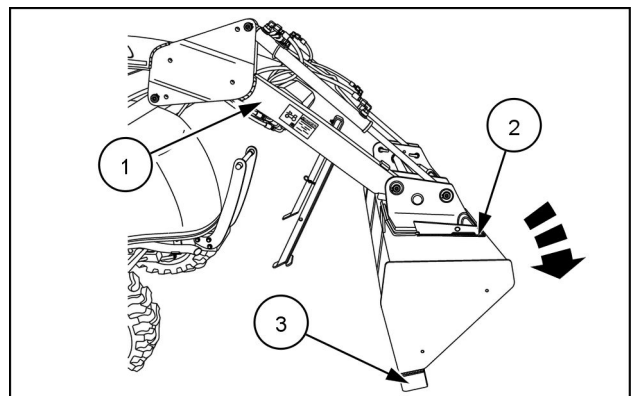
Crushing hazard!

Make sure the bucket or attachment is resting on the ground before folding or unfolding loader support legs.

Failure to comply could result in death or serious injury.

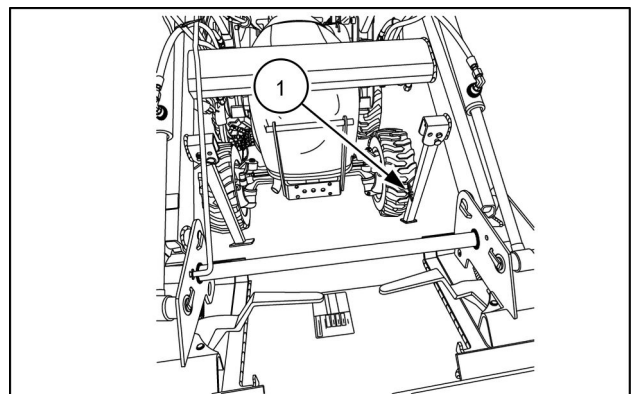
W0122A

1. Raise the loader boom and lower the bucket (1) in the extended, dump position, with the bucket cutting edge (2) resting on the ground.
2. Shut off the engine on the tractor and set the parking brake.



NHIL15CT00495AA 7

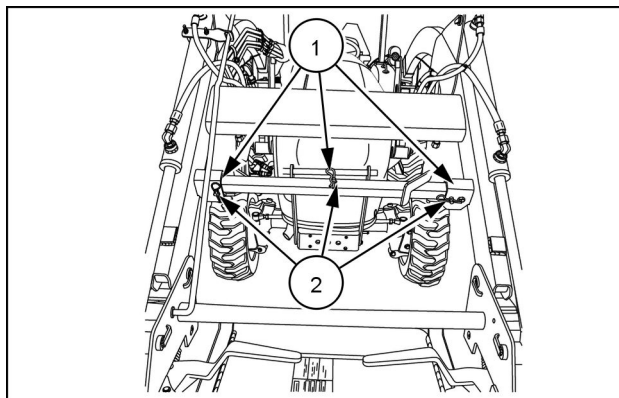
3. Remove the center stow pin safety pin (1).



NHIL15CT00496AA 8

3 - OPERATING INSTRUCTIONS

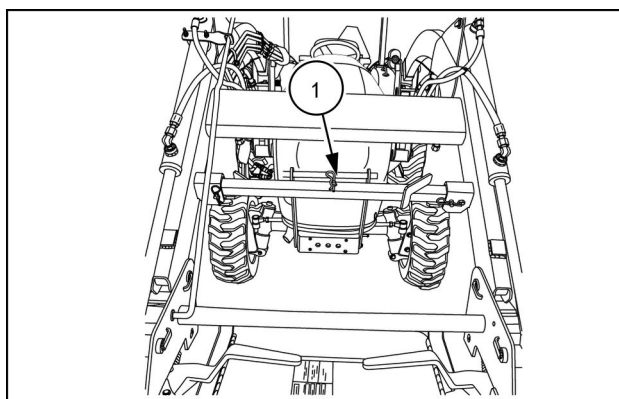
4. Remove the clips **(1)** and pins **(2)** from the loader support legs **(3)** and fold the legs up into the stowed position.



NHIL15CT00497AA 9

NOTE: The right side support leg **MUST** be folded up prior to the left side, to allow for proper stowage..

5. Install the center stow pin safety pin **(1)**.



NHIL15CT00497AA 10

Connecting the hydraulics at the tractor

Hydraulic hose connection

⚠ WARNING

Crushing hazard!

Before disconnecting the cylinders or equipment, make sure you adequately support and secure the equipment or implement.

Failure to comply could result in death or serious injury.

W0243A

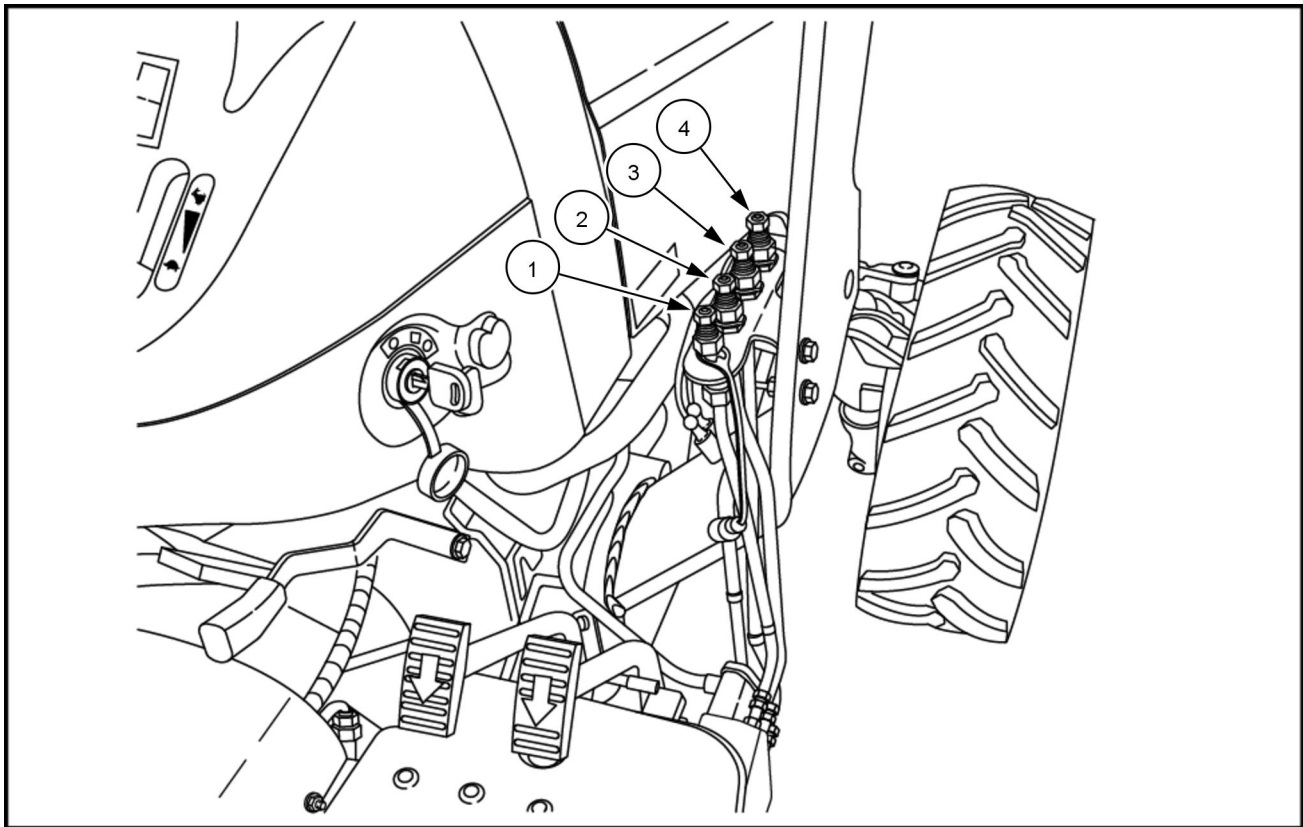
⚠ WARNING

Escaping fluid!

Remote couplers must be properly mounted and securely fastened to the machine mounting bracket for proper functioning of the safety disconnect feature.

Failure to comply could result in death or serious injury.

W0131A



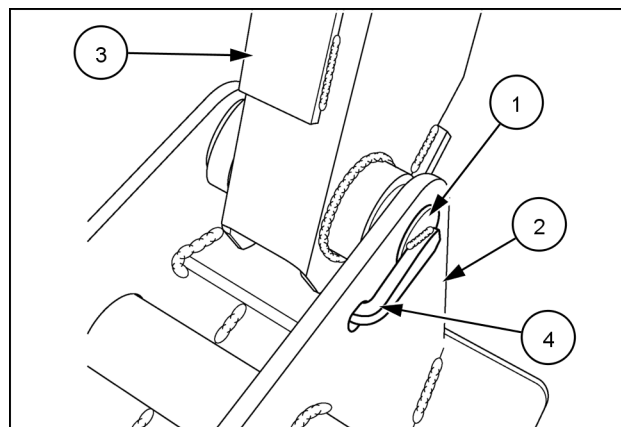
NHIL16CT02170AA 1

When connecting the loader hydraulic hoses, follow the instructions listed below.

- Loader down/retract cylinder, yellow coupler **(1)**.
- Loader up/extend cylinder, green coupler **(2)**.
- Bucket curl/retract cylinder, red coupler **(3)**.
- Bucket dump/extend cylinder, blue coupler **(4)**.

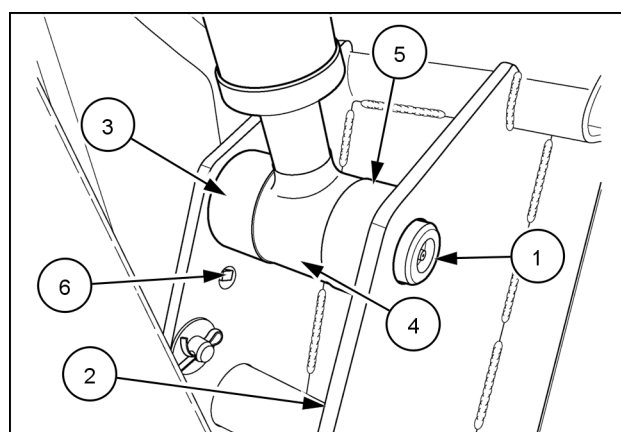
Installing the quick-attach plate

1. Start the engine of the tractor and release the parking brake. Slowly drive the tractor toward the quick attach plate, positioning the loader boom in the middle of the attachment points. Stop the engine of the tractor and set the parking brake.
2. Insert the lower pivot pins (1) outward through the quick attach plate (2), and loader arms (3).
3. Make sure the formed pin tabs (4) are properly inserted into cutout hole in the quick attach plate. Repeat steps 2 and 3 for the other side.



86060301 1

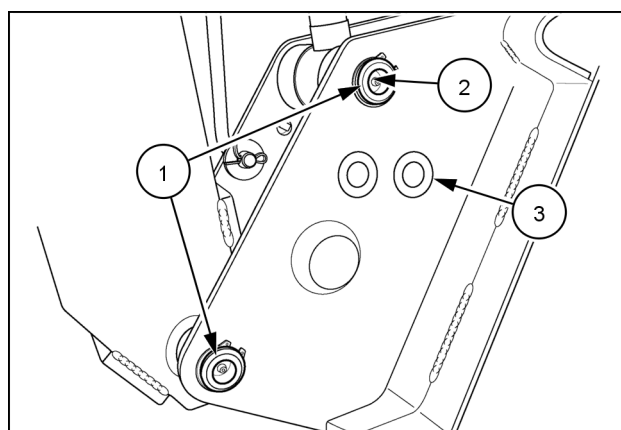
4. Insert the upper pivot pin (1) outward through the quick attach plate (2), thick spacer (3), cylinder rod (4), and thin spacer (5).
5. Make sure the formed pin tabs (6) are properly inserted into cutout hole in the quick attach plate. Repeat steps 4 and 5 for the other side.



86060302 2

6. Install the retaining rings (1) on all the mounting pins (2) securing the quick attach plate to the loader.

NOTICE: If installing an earlier production quick attach plate (without bushings) on a newer production loader with longer attaching pins, install two spacer washers (3) between plate ears and snap ring.

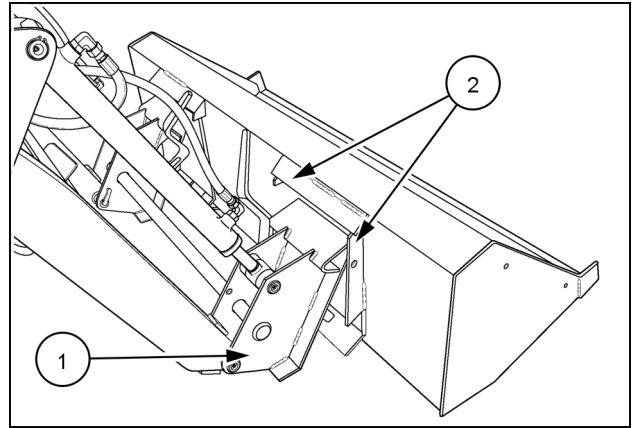


36086833 3

Installing the quick-attach bucket

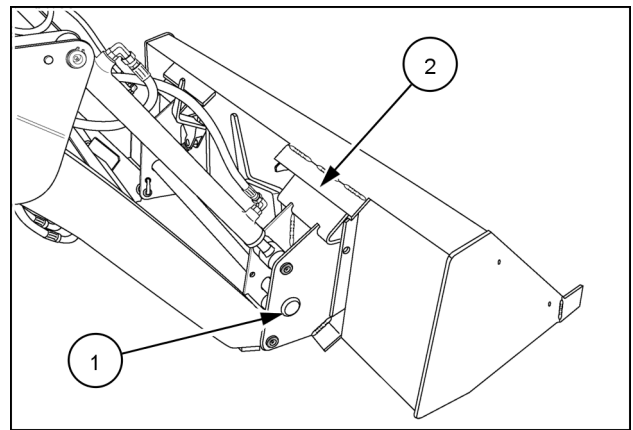
1. Lower the loader with the quick attach plate (1) positioned below the bucket mounting plates (2) and rolled slightly forward.

NOTICE: The area surrounding the quick attach coupler latches and the engagement slots on the bucket must be kept free of debris and foreign material to allow for proper operation of the quick attach locking mechanism.



86060327 1

2. Raise the loader slightly to engage the quick attach plate (1) into the top buckets plates (2).
3. With the quick attach plate securely engaged in the top buckets plates, roll the bucket rearward to allow the quick attach plate to move forward, seating the plate on the bucket.



86060328 2

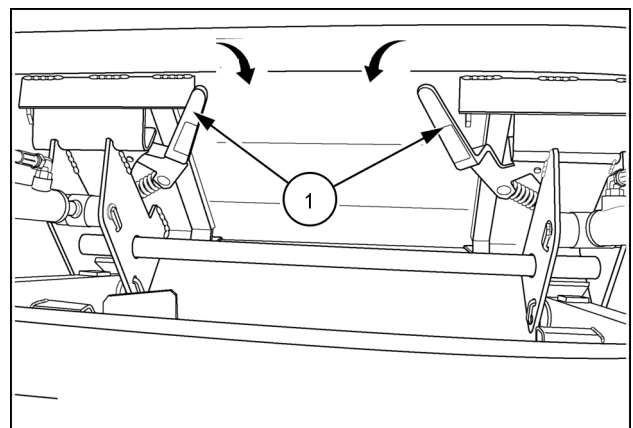
⚠ WARNING

Falling object hazard!

Before operating the machine, always make sure the bucket or attachment is securely locked into the quick-attach plate. A loader bucket or attachment that is not securely locked into the quick-attach plate could come off during loader operation. Failure to comply could result in death or serious injury.

W0166A

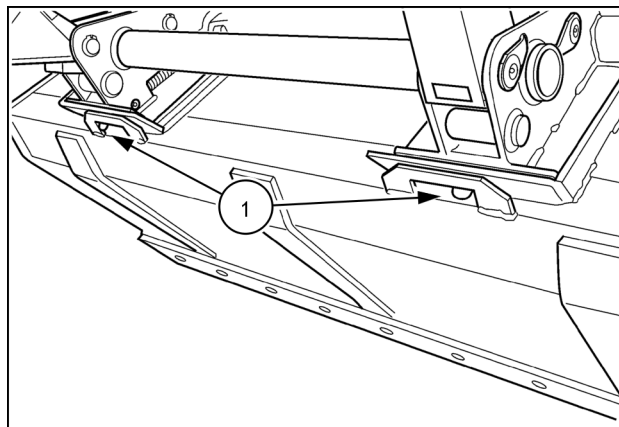
4. Shut off the engine, and set the parking brake.
5. With the quick attach securely seated into the bucket, push the left and right lock handles (1) into the locked position.



86060329A 3

3 - OPERATING INSTRUCTIONS

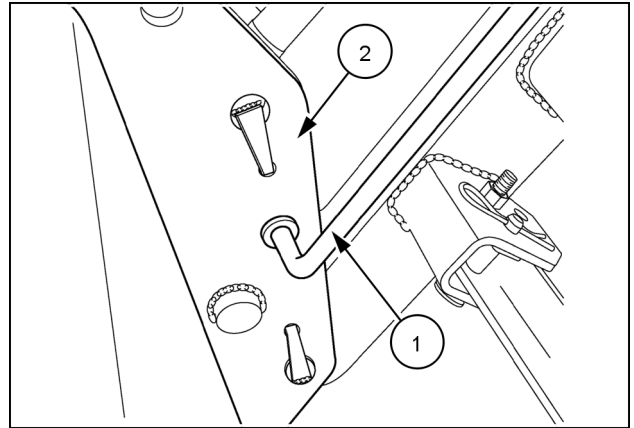
6. Raise the loader and dump the bucket until the cutting edge is resting on the ground. Visually confirm the locking pins **(1)** on the quick attach plate are engaged and locked in the bucket slots.
7. Lower the loader and roll the bucket to a level position.



56060330 4

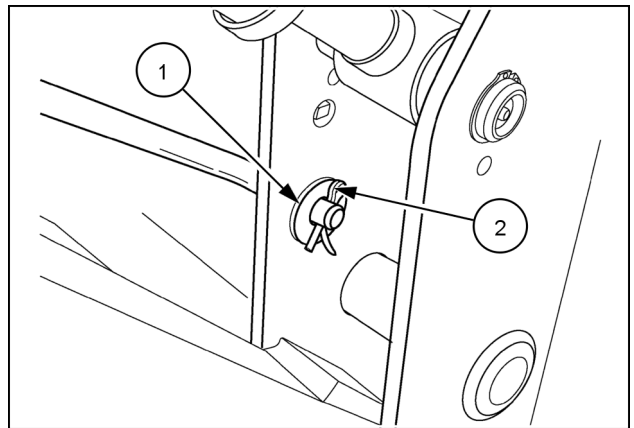
Installing the bucket level indicator

1. Install the bucket level indicator rod (1) through the hole in the inner right side bucket plate (2).



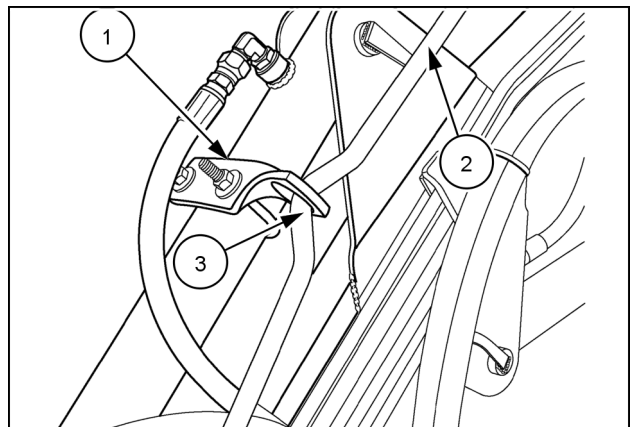
86060304 1

2. Install the flat washer (1), and cotter pin (2) onto the rod end.



86060305 2

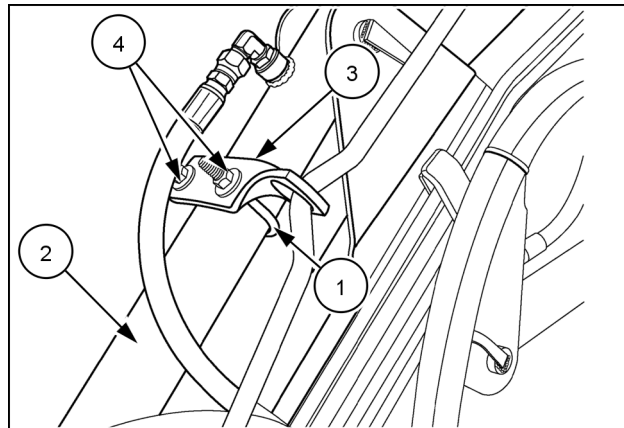
3. Slide the indicator bracket (1) over the top end of the rod (2) and position at the bend (3) in the rod.
4. Make sure that the bucket is resting on the ground, and is in a level position.



86060306 3

3 - OPERATING INSTRUCTIONS

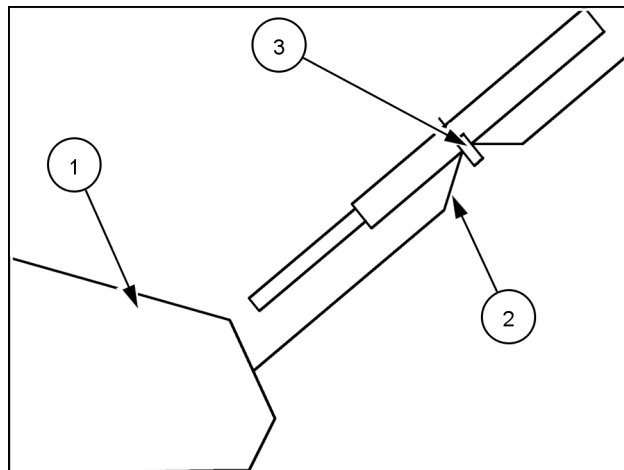
5. Install the U-bolt (1) around the bucket cylinder (2), and through the level indicator bracket (3). Secure the U-bolt, (1) to the level indicator bracket (3) with two lock nuts (4).



86060306 4

6. When the bucket (1) is in the level position, the bend in the level indicator rod (2) will be located in the indicator bracket (3).

NOTE: If the bucket indicator does not give an accurate level indication, the indicator bracket must be reset on the bucket cylinder.



30998690 5

PARKING THE UNIT

Removing the quick-attach bucket

⚠ WARNING

Pressurized hydraulic fluid can penetrate the skin and cause severe injuries. Hydraulic fluid is under extreme pressure. Rest the bucket or attachment on the ground. Shut the engine off, turn the key on, and move the hydraulic control lever through all movements several times to relieve residual pressure in the system. Failure to comply could result in death or serious injury.

W0161A

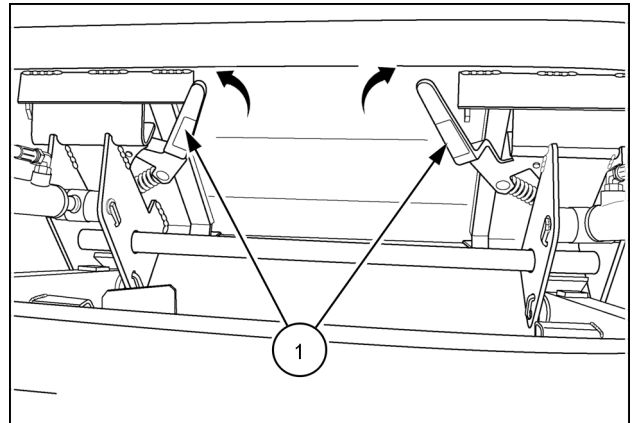
⚠ WARNING

Falling object hazard!
Before operating the machine, always make sure the bucket or attachment is securely locked into the quick-attach plate. A loader bucket or attachment that is not securely locked into the quick-attach plate could come off during loader operation. Failure to comply could result in death or serious injury.

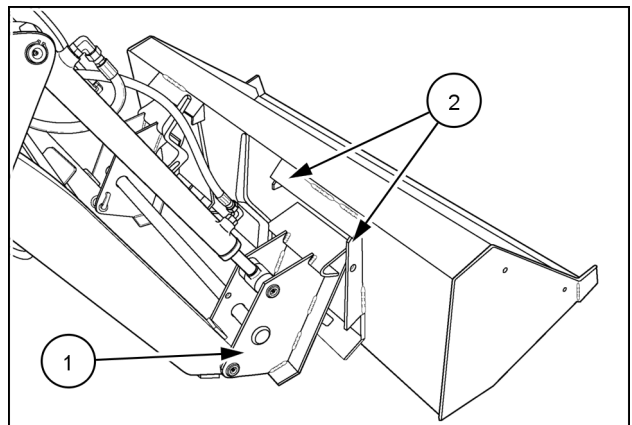
W0166A

NOTE: Do not place the loader control valve in the "FLOAT" position prior to removing the quick attach implement. Do not stand on the implement when placing handles in the unlocked position.

1. Lower the bucket to the ground, and roll slightly rearward.
2. Set the parking brake, shut off the engine.
3. Lift the lock handles (1) to unlock the quick attach plate from the bucket.
4. Start the tractor engine, lower the loader while slowly rolling the bucket forward until the quick attach plate (1) disengages from the bucket plates (2).
5. Back the tractor away from the bucket.



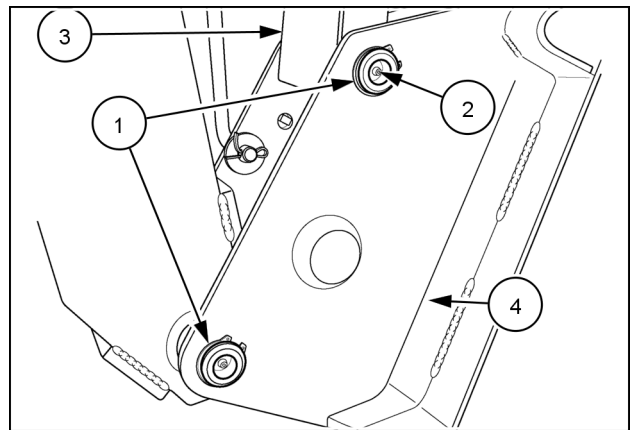
86060329B 1



86060327 2

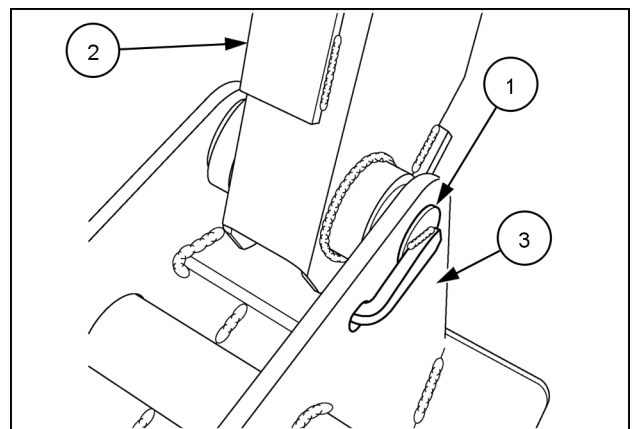
Removing the quick-attach plate

1. Remove the retaining rings (1) on all the mounting pins securing the quick attach plate to the loader.
2. Remove the upper pivot pins (2) inward through the lift links (3) and the quick attach plate (4).
3. Start the tractor and retract the bucket cylinders until completely out of the way.



56064702 1

3. Remove the lower pivot pins (1) inward through the loader arms (2), and quick attach plate (3).
4. Start the engine of the tractor and release the parking brake. Slowly back the tractor away from the quick attach plate (3). Stop the engine of the tractor and set the parking brake.



86060301 2

Removing the loader

⚠ WARNING

Tip-over hazard!

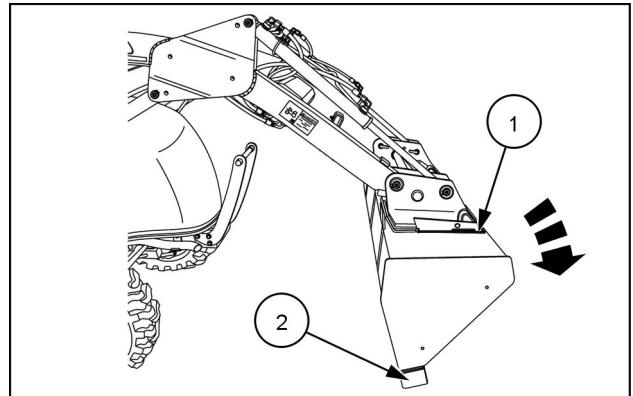
Always have an approved bucket mounted to the loader when the loader is removed from the tractor. Pallet fork, bale spear, or similar attachments are too light to safely counterbalance the loader boom arms when the loader is removed from the tractor.

Failure to comply could result in death or serious injury.

W0022B

Preparing to remove the loader from the tractor

1. Locate the tractor and loader on firm level ground.
2. Lower the loader bucket (1) to the ground, cutting edge (2) first, stop the tractor engine, and set the parking brake.



NHIL15CT00495AA 1

Deploying the park stand

⚠ WARNING

Avoid injury!

To install or remove the park stand, raise the loader and then set the loader down on its cutting edge (the bottom surface of the bucket should be vertical). This safely supports the boom while the operator installs or removes the park stand.

Failure to comply could result in death or serious injury.

W1248A

⚠ WARNING

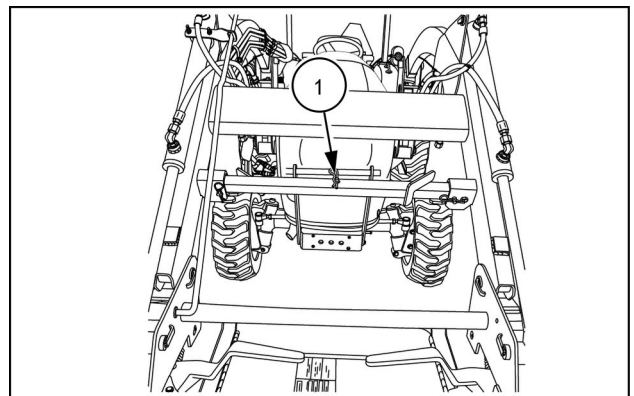
Crushing hazard!

Make sure the bucket or attachment is resting on the ground before folding or unfolding loader support legs.

Failure to comply could result in death or serious injury.

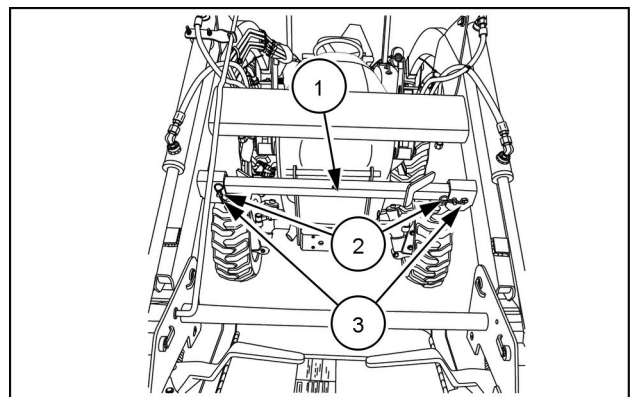
W0122A

1. Remove the center stow pin safety pin (1).



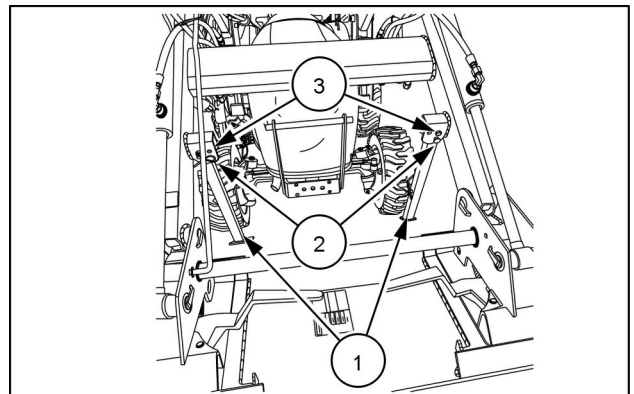
NHIL15CT00497AA 2

2. Remove the park stand (1) from the stowed position by removing the safety pins (2) and pins (3).



NHIL15CT00497AA 3

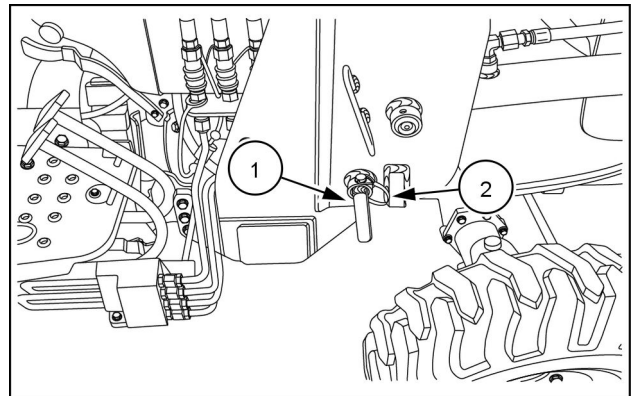
3. Unfold the park stand legs (1) and secure them with the pins (2) and safety pins (3) in the deployed position.



NHIL15CT00496AA 4

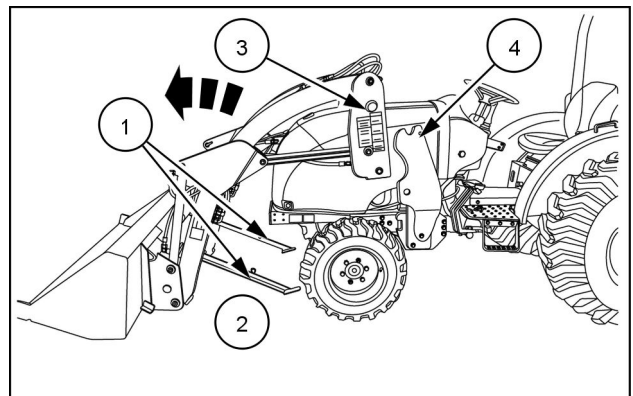
Removing the loader from the tractor

1. Remove the safety pins (1) and the frame pins (2), from the left-hand and right-hand sides.



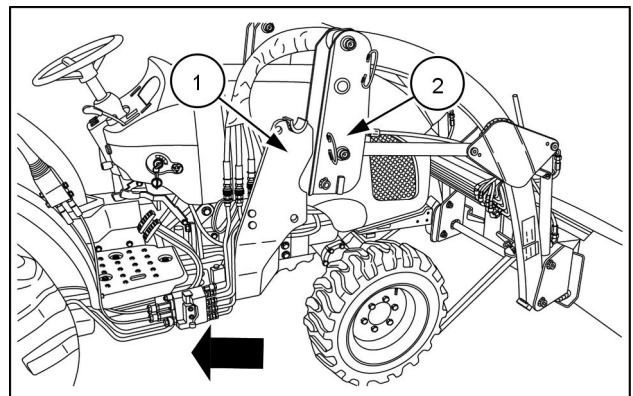
NHIL16CT02165AA 5

2. Start the tractor engine and release the brakes.
3. Activate the lift control lever to fully retract lift cylinders.
4. Activate the bucket control lever to retract the bucket cylinders until the park stands (1) contact the ground (2) and mounting bracket tubes (3) raise from the frame channel (4).



NHIL15CT00489AA 6

5. Back the tractor up slowly, allowing the loader frame (1) to clear the side frame channels (2).



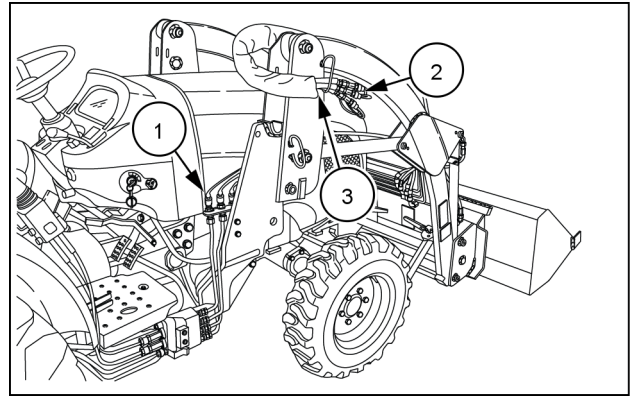
NHIL16CT02172AA 7

NOTICE: Make sure the hydraulic hoses (1) are free as the tractor is backed away. Damage will result if the hoses are not free.

NOTICE: Do not back away very far. Stretching the hydraulic hoses will cause damage.

3 - OPERATING INSTRUCTIONS

6. Engage the tractor brakes and stop the engine.
7. Activate the control lever to relieve the pressure in both the bucket and lift circuits.
8. Disconnect the quick couplers and install clean dust covers **(1)** and plugs **(2)** on all couplers. Position the loader hoses **(3)** on the loader so they do not contact the ground.



NHIL16CT01065AA 8

4 - WORKING OPERATIONS

GENERAL INFORMATION

Operating the loader

⚠ WARNING

Avoid injury!

Excessive speed is dangerous and may cause spillage and excessive strain on the bucket.

Failure to comply could result in death or serious injury.

W1306A

The loader should be operated with the tractor engine running at **1700 – 2200 RPM**.

When operating in temperatures below **-17 °C (0 °F)**, run the tractor engine below **1500 RPM** and do not operate the loader for approximately 10 to 15 minutes to allow the hydraulic oil to increase in temperature.

The following text and illustrations present suggested loader and tractor operating techniques.

Handling large heavy objects

⚠ WARNING

Handling large heavy objects can be extremely dangerous!

Using front end loaders for handling large round or rectangular bales, logs, and oil drums is not recommended. If you must perform the above type of work, protect yourself by following all instructions below and in the SAFETY INFORMATION section.

Failure to comply could result in death or serious injury.

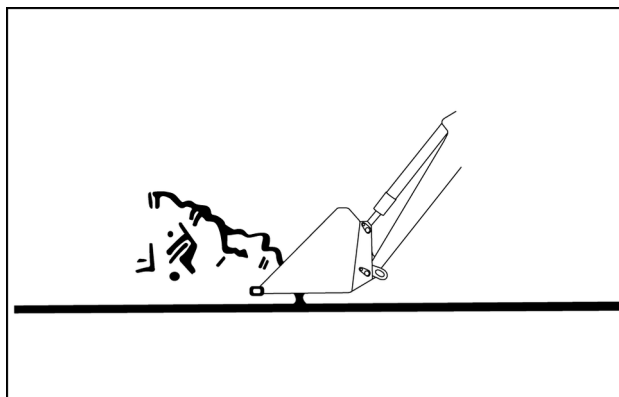
W0027A

When handling large heavy objects, ALWAYS do the following:

- Use the proper attachment.
- Never lift the load higher than necessary to clear the ground when moving.
- Ballast the tractor rear to compensate for the load.
- Never lift large objects with equipment that does not have an anti-rollback device.
- Move slowly and carefully, and avoid rough terrain.

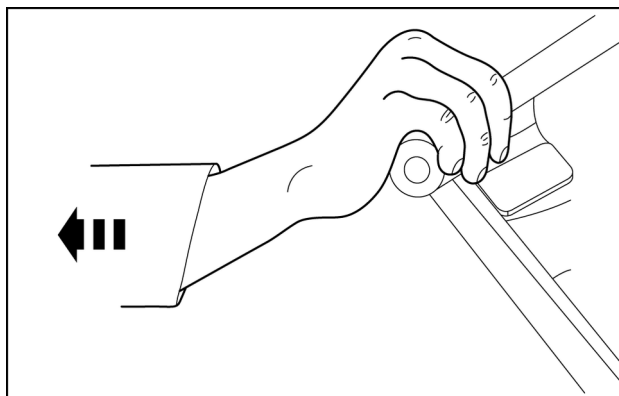
Filling the bucket

Approach and enter the pile with a level bucket.



NHIL13CT00861AA 1

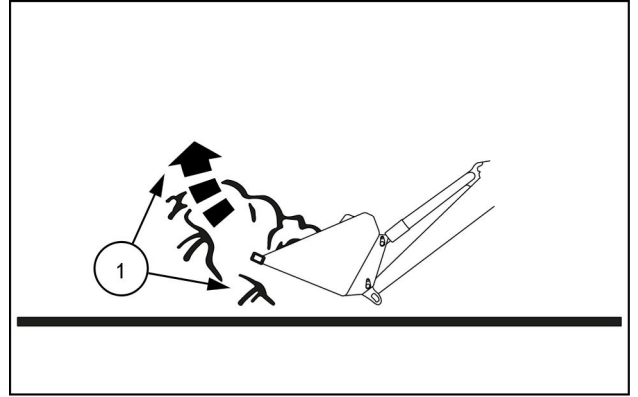
Ease the single lever control back to lift the bucket and to the left to roll back the bucket.



NHIL13CT00862AA 2

The lift and rollback of the bucket increases efficiency.

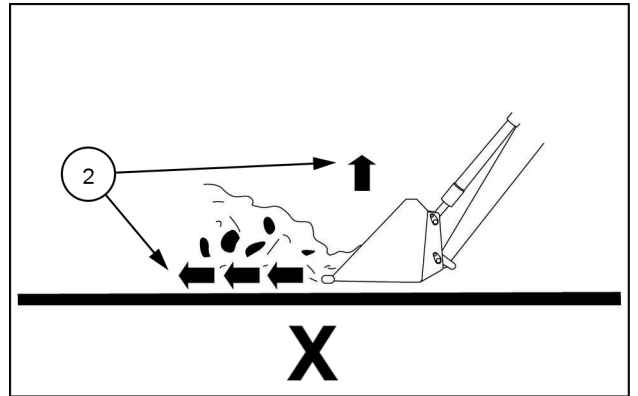
(1) Do this.



NHIL13CT00863AA 3

This is because a level bucket throughout the lifting cycle resists bucket lift and increases breakaway effort.

(2) Not This



NHIL13CT00864AA 4

⚠ WARNING

Roll-over hazard! A full bucket in the raised position alters the center of gravity of the machine.

When operating a loader with a full bucket on slopes, observe the following precautions:

- 1. Avoid turning the machine on slopes.**
 - 2. Always drive slowly straight up and down slopes.**
 - 3. Always carry the load as low as possible.**
- Failure to comply could result in death or serious injury.**

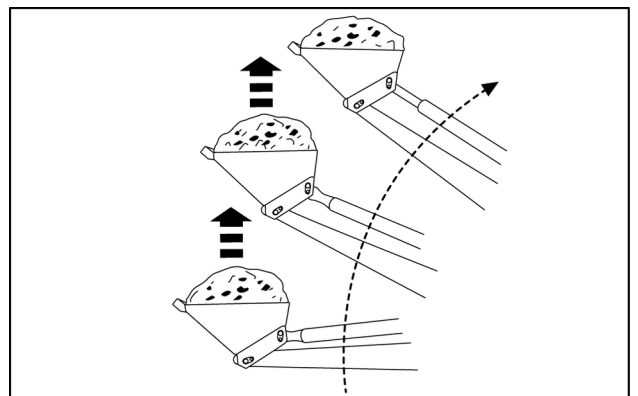
W0018A

NOTE: Do not be concerned if the bucket is not completely filled during each pass. Maximum productivity is determined by the amount of material loaded in a given period of time, and time is lost if two or more attempts are made to fill the bucket on each pass.

Lifting the load

Keep the bucket positioned to avoid spillage when lifting the load.

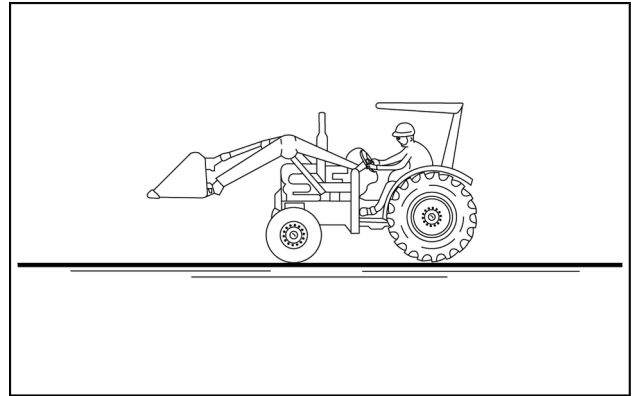
NOTICE: Do not attempt to lift bucket loads in excess of loader capacity.



NHIL13CT00865AA 5

Carrying the load

Position the bucket just below the level of the tractor hood. This provides for maximum stability and visibility, whether the bucket is loaded or empty.

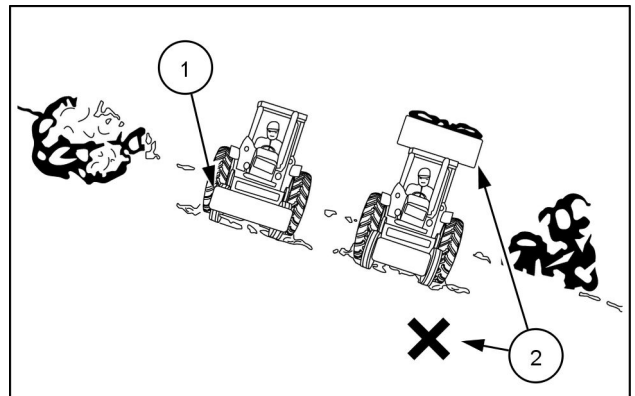


NHIL13CT00866AA 6

Carry the bucket as low as possible when operating the loader on a slope. This keeps the bucket and tractor center of gravity low, providing maximum tractor stability.

(1) Do this.

(2) Not this.

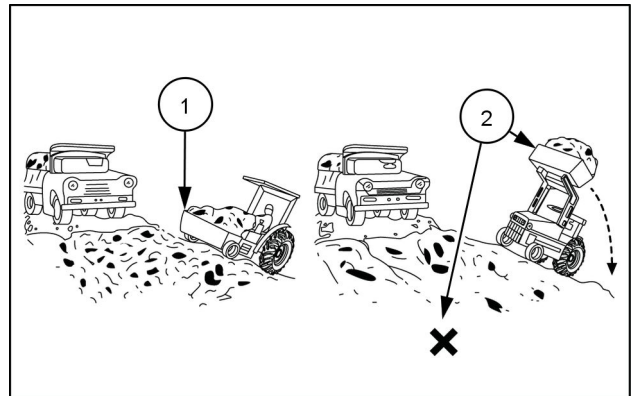


NHIL13CT00867AA 7

When transporting the load, keep the bucket as low as possible. This helps to avoid tipping in the event a wheel drops into a rut.

(1) Do this.

(2) Not this.



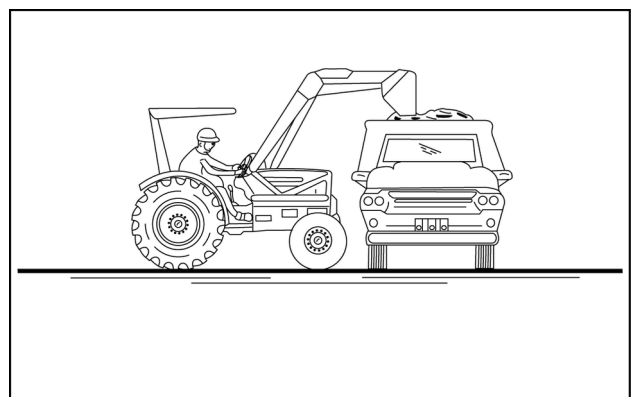
NHIL13CT00868AA 8

Dumping the bucket

Lift the bucket high enough to clear the vehicle's side. Move the tractor in as close as possible to the side of the vehicle, and then dump the bucket.

Lowering the bucket

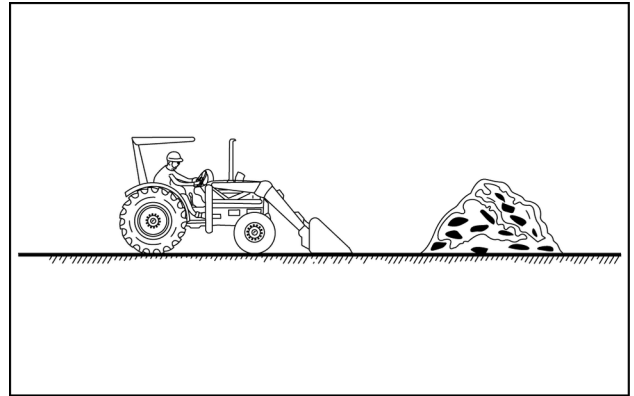
After the bucket is dumped, back away from the vehicle while lowering and rolling back the bucket.



NHIL13CT00869AA 9

Operating with float control

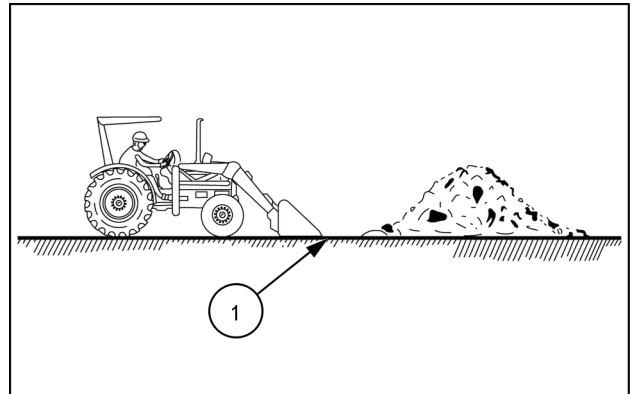
The bucket will wear faster if hydraulic down pressure is exerted during loader operation. To prevent this from occurring, keep the bucket level and put the lift control in the float position during hard surface operation, allowing the bucket to float on the working surface.



NHIL13CT00870AA 10

Utilizing the float position also helps prevent the mixing of surface material with stockpile material. This is because the float position reduces the chance of surface gouging when removing snow or other material, or when working with a blade.

(1) Surface material.

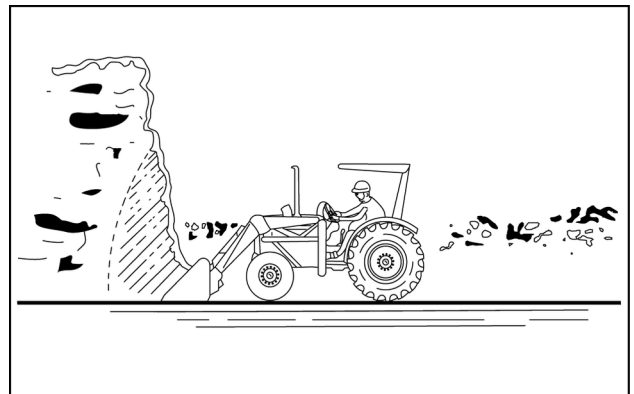


NHIL13CT00871AA 11

Loading from a bank

Choose a forward gear that provides sufficient ground speed for loading.

Load from the lowest position possible for maximum efficiency. Loader lift and breakaway capacity diminish as loading height is increased.



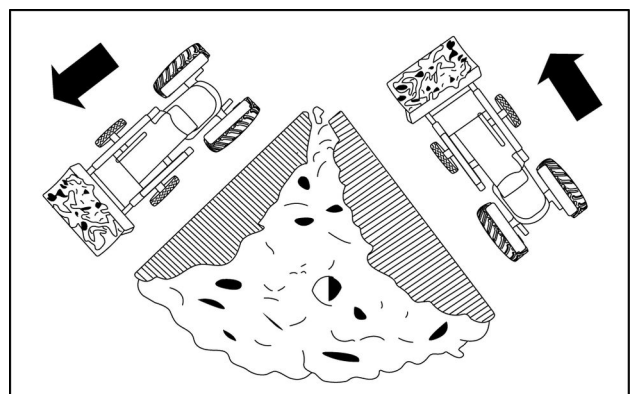
NHIL13CT00872AA 12

⚠ WARNING

Falling objects!
Dirt slides can be dangerous. Exercise extreme care when undercutting high banks. Watch for falling rocks and cave-ins. Failure to comply could result in death or serious injury.

W0021A

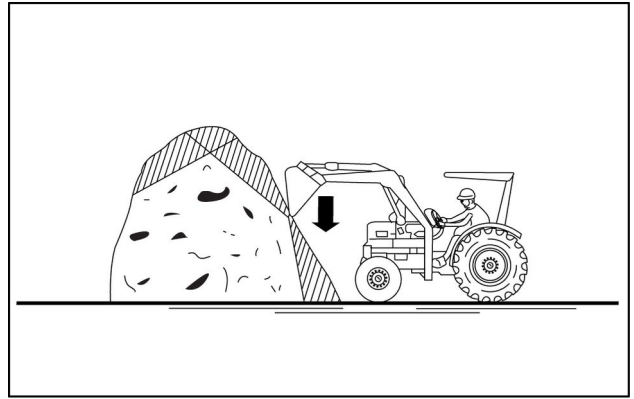
Side-cutting is a good technique for cutting down a large pile of material.



NHIL13CT00873AA 13

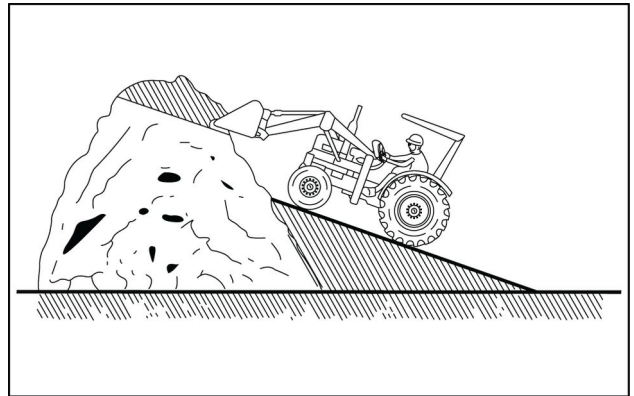
4 - WORKING OPERATIONS

If the pile sides are too high and likely to cause cave-in, use the loader to break down the sides until a slot can be cut over the top.



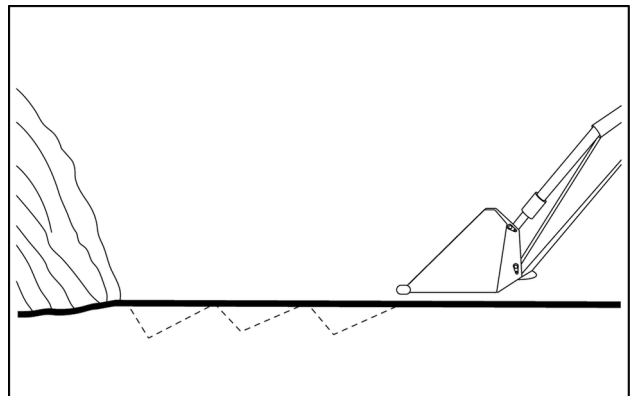
NHIL13CT00874AA 14

Another effective method of loading from large dirt piles is to build a ramp approach



NHIL13CT00875AA 15

NOTE: Keep the bucket level when approaching a bank or pile to help prevent gouging the work area.

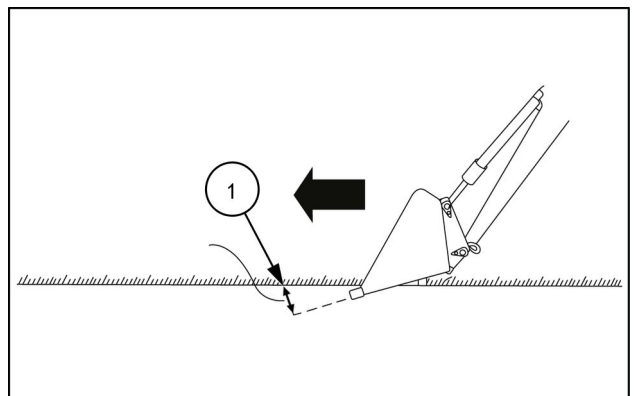


NHIL13CT00876AA 16

Peeling and scraping

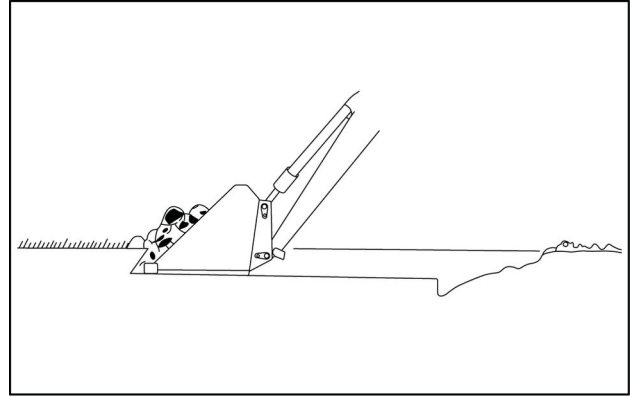
Use a slight bucket angle, travel forward, and hold the lift control forward to start the cut. Make a short angle cut **1.5 – 2.4 m (5 – 8 ft)** and break out cleanly.

(1) 152 mm (6.0 in).



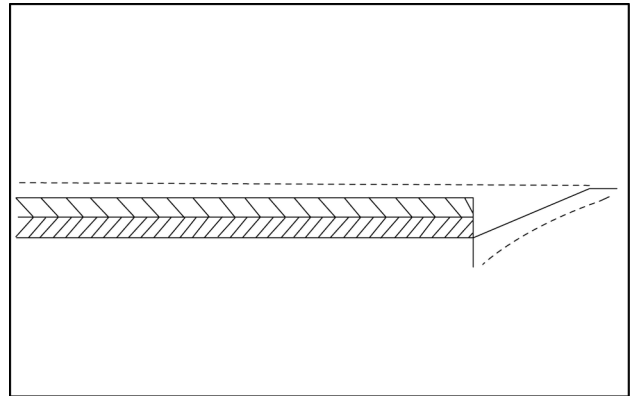
NHIL13CT00877AA 17

With the bucket level, start a cut at the notch approximately **51 mm (2 in)** deep. Hold the depth by feathering the bucket control to adjust the cutting lip up or down. When the front tires enter the notch, adjust the lift cylinder to maintain proper depth.



NHIL13CT00878AA 18

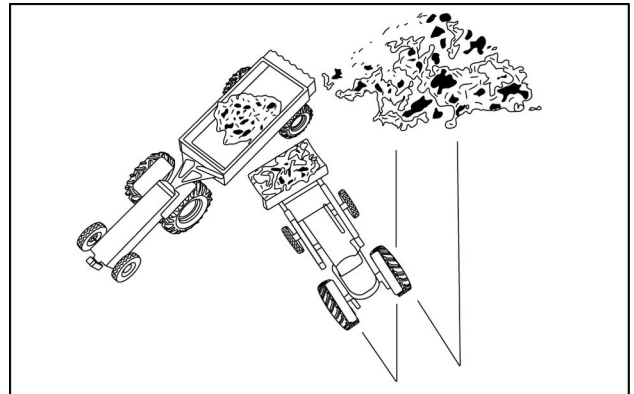
Make additional passes until the desired depth is reached. During each pass, use the bucket control only while at working depth. This allows you to concentrate on controlling the bucket angle and maintaining a precise cut.



NHIL13CT00879AA 19

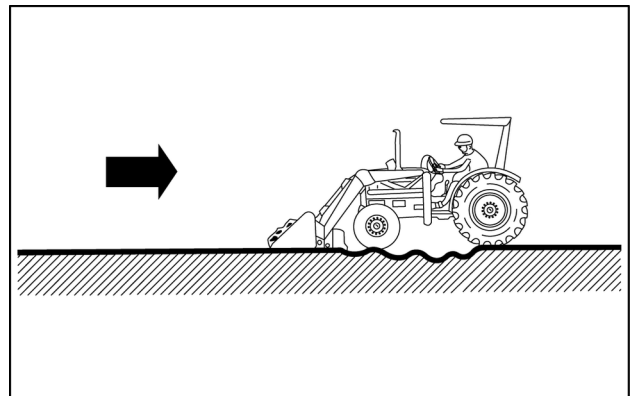
Loading low trucks or spreaders from a pile

Minimize the angle of turn and length of run between the pile and spreader for faster loading.



NHIL13CT00880AA 20

Back-grade occasionally with a loaded bucket to keep the working surface free of ruts and holes. Hold the lift control forward so the full weight of the bucket is scraping the surface and use the heel of the bucket.

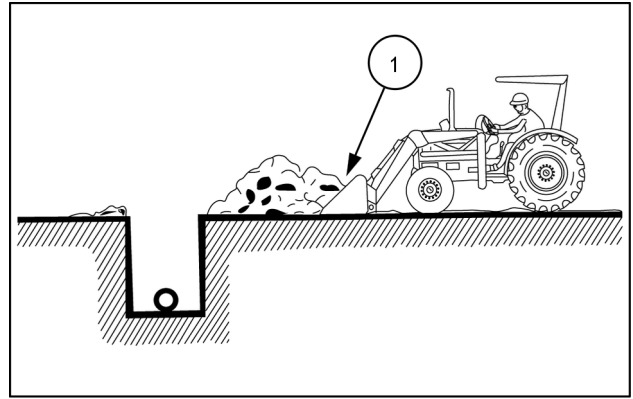


NHIL13CT00881AA 21

Backfilling

Approach the pile with a flat bucket. Poor methods move no more dirt and make it more difficult to hold a level grade.

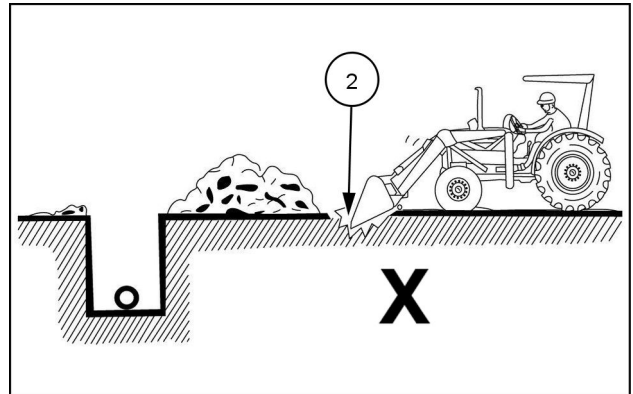
(1) Do this



NHIL13CT00882AA 22

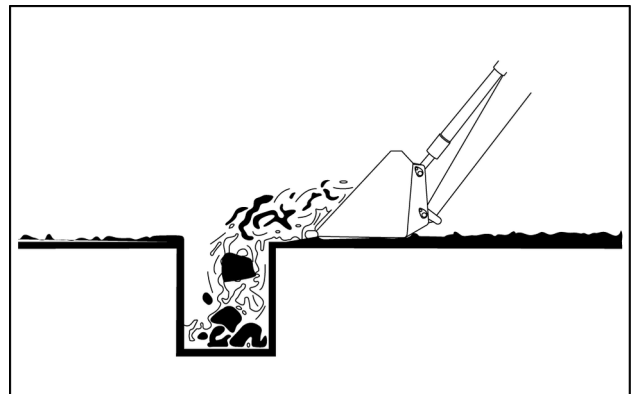
When bulldozing, do not use the bucket in the dumped position. This method forces severe shock loadings on the dump linkage, the bucket cylinder, and the tractor.

(2) Not this



NHIL13CT00883AA 23

Leave dirt in the bucket. Dumping on each pass wastes time.

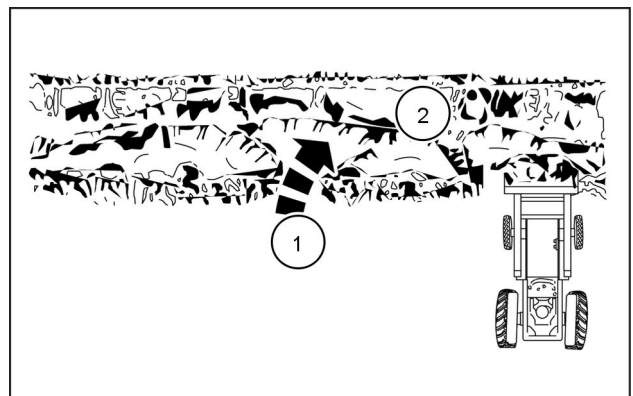


NHIL13CT00884AA 24

Operate at right angles to the ditch and take as large of a bite as the tractor can handle without lugging down.

(1) Soil pile

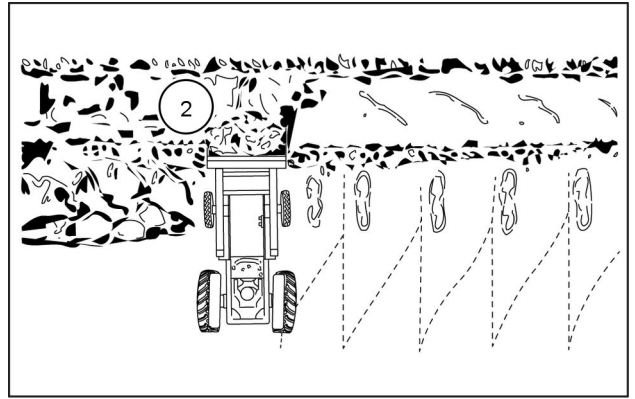
(2) Ditch



NHIL13CT00885AA 25

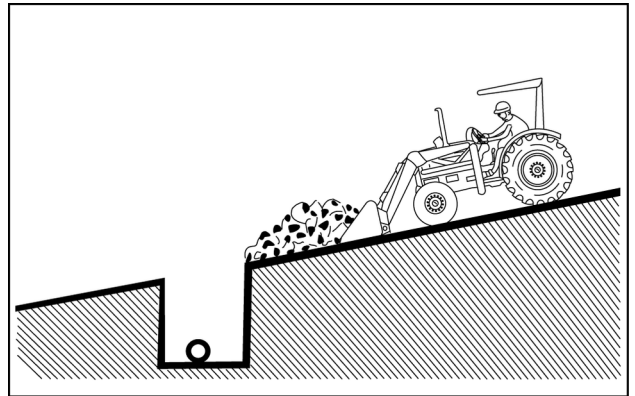
Leave any dirt which drifts over the side of the bucket for final cleanup.

(2) Ditch



NHIL13CT00886AA 26

Pile dirt on the high side for easier backfilling on a slope.



NHIL13CT00887AA 27

Front remote control valve

Front Remote Control Valve Workmaster™ 35 or 40

The front remote control valve (1) is mounted to the front of the right-hand fender. This valve is used mainly for front end loader operation, but may also be used to operate other front mounted implements.

To operate the two-spool valve, move the control lever (1) in any of the four directions.

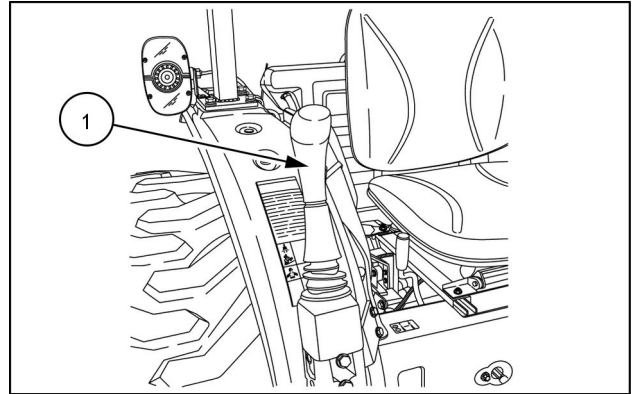
Release the control lever to stop the cylinder in any position, the lever automatically returns to neutral.

- Move the control lever forward to lower the loader/retract cylinder (2).
- Move the control lever to the left to curl the bucket/retract cylinder (3).
- Move the control lever rearward to raise the loader/extend cylinder (4).
- Move the control lever to the right to dump bucket/extend cylinder (5).
- Move the control lever fully forward to "FLOAT" the bucket (6) which allows a cylinder to extend or retract freely.

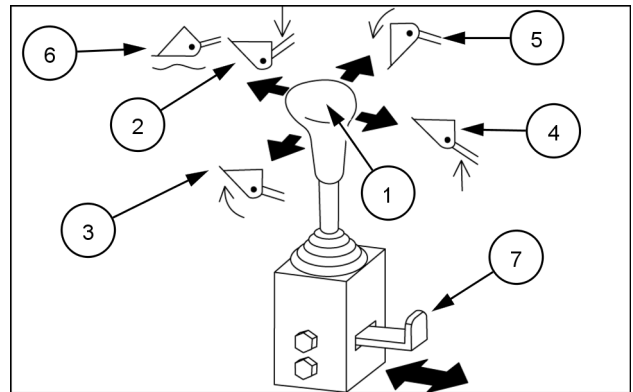
NOTE: Do not use the "FLOAT" position if the loader is raised to its highest position.

NOTE: Push the locking lever (7) in when the two-spool control valve is not used.

NOTE: If you move the control lever diagonally the loader and bucket will operate at the same time.



NHIL15CT00449AA 1



93100858 2

Front remote control valve - lock out

Front Remote Control Valve Workmaster™ 35 or 40

The two spool valve is equipped with a valve lock feature. The valve lock, mechanically locks the boom and bucket spool linkages in the neutral position. To operate lock, pull the lever (1) outward to release valve lock. To engage lock, push the lever inward.

The valve lock is recommended to be used to prevent accidental activation of the boom and bucket spools during operation of the tractor. The lock is not intended and will not prevent leak down of loader boom during periods of storage.

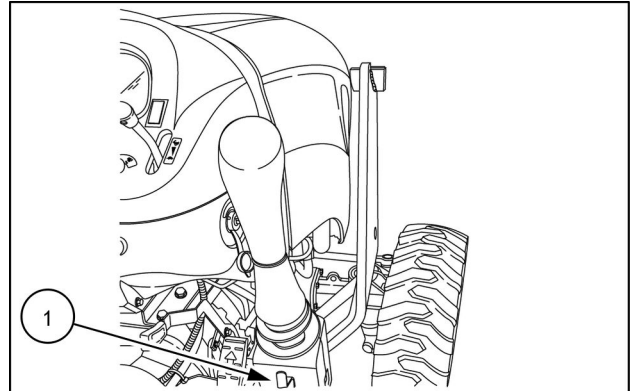
⚠ WARNING

Crushing hazard!

Before disconnecting the cylinders or equipment, make sure you adequately support and secure the equipment or implement.

Failure to comply could result in death or serious injury.

W0243A



NHIL15CT00482AA 1

⚠ WARNING

Escaping fluid!

Remote couplers must be properly mounted and securely fastened to the machine mounting bracket for proper functioning of the safety disconnect feature.

Failure to comply could result in death or serious injury.

W0131A

5 - MAINTENANCE

GENERAL INFORMATION

Basic instructions

⚠ CAUTION

Unexpected machine movement!

1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.

Failure to comply could result in minor or moderate injury.

C0038A

Adequate lubrication and maintenance on a regular schedule is vital to maintaining your equipment. To ensure long service and efficient operation, follow the lubrication and maintenance schedules outlined in this manual. The use of proper fuels, oils, grease and filters, as well as keeping the systems clean, will also extend machine and component life.

NOTICE: Always use genuine NEW HOLLAND replacement parts, oils and filters to ensure proper operation, filtration of engine and hydraulic systems. See your NEW HOLLAND dealer for additional oil quantities.

General Information

NOTICE: While any company can perform necessary maintenance or repairs on your equipment, NEW HOLLAND strongly recommends that you use only authorized NEW HOLLAND dealers and products that meet given specifications. Improperly or incorrectly performed maintenance and repair voids the equipment warranty and may affect service intervals.

Regular lubrication is the best insurance against delays and repairs. Proper lubrication will extend machine life. Refer to the following charts for lubricants and service intervals.

NOTICE: Failure to complete the required maintenance at the recommended intervals can cause unnecessary downtime.

The intervals listed are guidelines to be used when operating in normal conditions. Adjust the intervals for operating in adverse environmental and working conditions. The intervals must be shortened for sandy, dusty and extremely hot operating conditions.

Check all hardware to ensure that it has been properly installed and tightened. Retighten the hardware after the first 10 hours of operation and every 50 hours thereafter.

Grease Fittings

Wipe dirt from fittings before greasing. Pump fresh grease into fitting to adequately lubricate the component and force out any contamination from the grease passage. Wipe off excess grease. Use a grease gun containing clean, high grade multipurpose grease.

Daily inspection

⚠ WARNING

Crushing hazard!

Before attempting any maintenance on the loader or tractor, always make sure the loader is in the down position and the bucket or attachment is resting on the ground.

Failure to comply could result in death or serious injury.

W0119A

Optimum machine performance and long life can only be achieved through a comprehensive owner maintenance program. Such a program includes regular lubrication

and replacement of worn or damaged parts. A thorough program reduces maintenance costs and eliminates unnecessary downtime.

NOTICE: *The hour intervals between servicing, as listed in this section, are guidelines and should be considered the maximum service intervals for normal use and working conditions. Reduce these intervals accordingly when operating under extreme conditions.*

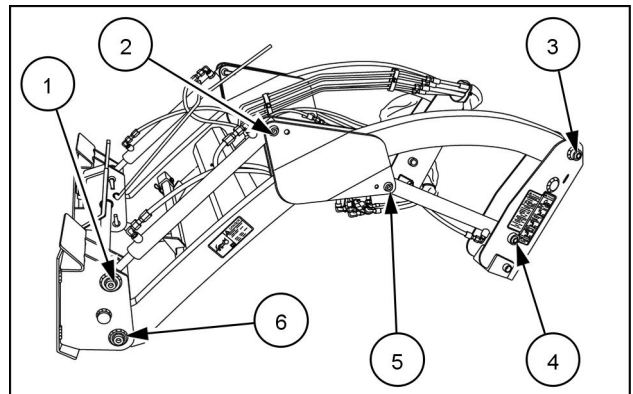
Daily Maintenance

When using the tractor's hydraulic system to operate the loader, check the level of hydraulic oil in the tractor before the start of each day's operation. If necessary, add **HYDRAULIC TRANSMISSION OIL - PREMIUM**.

Lubricate the 12 grease fittings after every 8 hours of operation. As illustrated below; these fittings are found at the rear of each lift arm, for bucket pivot, as well as at the rod and barrel end of each cylinder.

Grease Locations

The 12 grease points are shown below. They are found on both sides of the loader in the identified locations.



NHIL15CT00484AA 1

⚠ WARNING

Pressurized hydraulic fluid can penetrate the skin and cause severe injuries.

Tighten all of the connections before starting the engine. If hydraulic fluid has penetrated the skin, seek medical assistance immediately.

Failure to comply could result in death or serious injury.

W0117A

⚠ WARNING

Crushing hazard!

The loader must be attached to the tractor with the bucket or attachment resting on the ground when repairing or replacing any loader parts.

Failure to comply could result in death or serious injury.

W0121A

Repair hydraulic leaks promptly to avoid loss of oil and serious personal injury from escaping oil.

Replace hoses immediately if they are severely damaged by a cut or scrape, extruded at the fittings, or leaking.

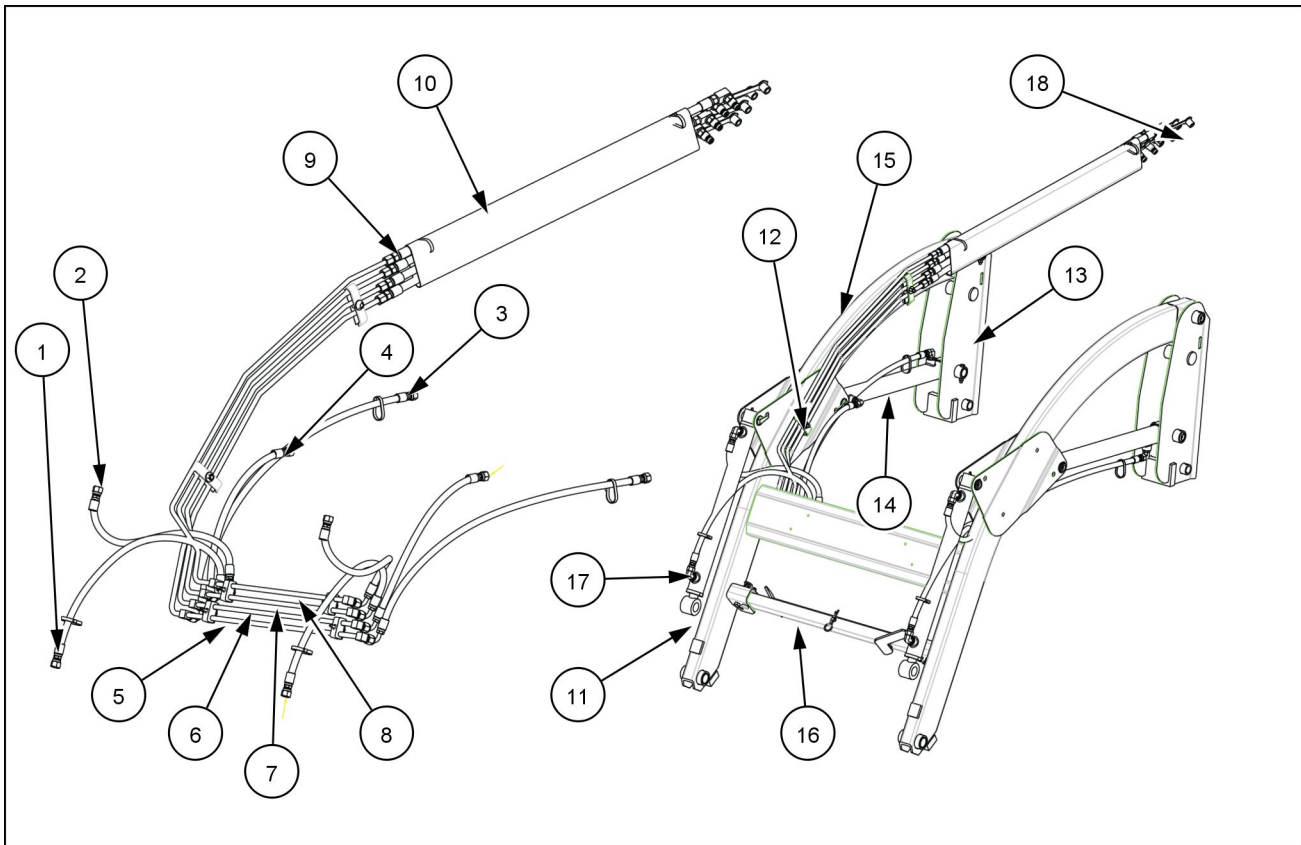
Check all loader mount hardware after 10 hours of operation and every 50 hours of operation thereafter.

Checking Loader Operation

1. Start the tractor engine and run at idle speed. Move the single lever loader control slowly to check for proper loader action. If any control does not function as displayed on the decal, lower the loader, stop the engine, and switch lines for that function to attain proper operation.
2. Color-coded plastic caps are provided to identify the hose connections for future hookups. Place the same color caps on the male and female couplers for proper identification and machine operation.
3. After all plumbing is completed, start the tractor engine and slowly cycle the lift and bucket cylinders several times to free the system of air. Next, retract the cylinders and stop the engine. Add additional **HYDRAULIC TRANSMISSION OIL - PREMIUM** hydraulic oil to bring the oil level up to the full mark, as specified in your tractor owner's manual.

NOTE: During cold weather operation, tractor hydraulic oil can be changed to **MULTI-SEASON HYDRAULIC TRANSMISSION OIL SAE 0W-20**. The F200 oil is a multi-viscosity oil which has improved flow characteristics in low temperatures and can be used year round.

Hydraulics



NH15CT00500FA 1

Ref.	Description	Qty.
(1)	Bucket cylinder rod end hose	2
(2)	Bucket cylinder base end hose	2
(3)	Lift cylinder rod end hose	2
(4)	Lift cylinder base end hose	2
(5)	Hydraulic tube lift cylinder rod end	1
(6)	Hydraulic tube lift cylinder base end	1
(7)	Hydraulic tube bucket cylinder base end	1
(8)	Hydraulic tube bucket cylinder rod end	1
(9)	Hydraulic hose 3/8" ID, 2032 mm (80 in) Length	4
(10)	Protective sleeve	1
(11)	Bucket cylinder assembly	2
(12)	Tube clamp	2
(13)	Loader rear upright	2
(14)	Lift cylinder assembly	2
(15)	Boom assembly	1
(16)	Parking stand assembly	2
(17)	Fitting 90° O-ring - 37° Flare	4
(18)	Dust caps	4

Recommended Lubricants

Lubricant	Type and Description	Part Number	Container Size
Transmission/Hydraulic Oil	HYDRAULIC TRANSMISSION OIL - PREMIUM	9624655DS	0.946 l (1 US qt)
		9624656DS	3.785 l (1 US gal)
		9624450	9.46 l (2.5 US gal)
		9624451	18.93 l (5 US gal)
	MULTI-SEASON HYDRAULIC TRANSMISSION OIL SAE 0W-20	86523625DS	3.785 l (1 US gal)
		86523626DS	18.93 l (5 US gal)
		86523627DS	208.2 l (55 US gal)
Grease	MULTI-PURPOSE GREASE EXTREME PRESSURE AND ANTI-WEAR NLGI 2	9613310	Tube - 14 oz.

MAINTENANCE CHART

Maintenance planning

Maintenance action	Lubricate		Check	
				Page no.
Every 8 hours or daily				
Front loader and bucket - Lubricate	x			5-6
DAILY				
Tractor hydraulic oil reservoir - Check		x		5-6
After the first 10 hours of operation				
Hardware - Check		x		5-6
50 hours				
Hardware - Check		x		5-7

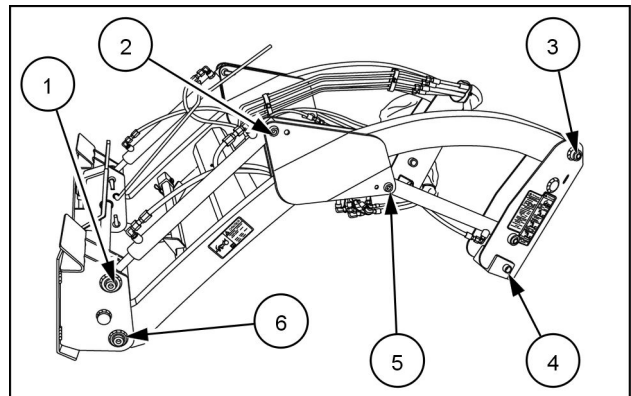
Every 8 hours or daily

Front loader and bucket - Lubricate

Grease Locations

Lubricate the 12 grease fittings after every 8 hours of operation. As illustrated below; these fittings are found at the rear of each lift arm, for bucket pivot, as well as at the rod and barrel end of each cylinder.

The 12 grease points are shown below. They are found on both sides of the loader in the identified locations.



NHIL15CT00484AA 1

DAILY

Tractor hydraulic oil reservoir - Check

Daily Maintenance

When using the tractor's hydraulic system to operate the loader, check the level of hydraulic oil in the tractor before the start of each day's operation. If necessary, add **HYDRAULIC TRANSMISSION OIL - PREMIUM**.

After the first 10 hours of operation

Hardware - Check

Check all loader mount hardware after 10 hours of operation and every 50 hours of operation thereafter.

50 hours

Hardware - Check

Check all loader mount hardware after 10 hours of operation and every 50 hours of operation thereafter.

6 - TROUBLESHOOTING

SYMPTOM(S)

Front loader and bucket - Troubleshooting

Problem	Possible Cause	Correction
Loader is slow or will not lift and/or dump.	Hydraulic oil too heavy.	Change to proper oil (or for cold weather operation).
	Tractor hydraulic filter plugged.	Replace filter.
	Tractor hydraulic pump worn.	Repair or replace pump.
	Oil line restricted or leaking.	Check all hoses and tubes for leaks, damage, or restrictions. Replace damaged or restricted hoses or tube lines.
	Faulty hydraulic quick couplers.	Check hose couplers for leaks, damage, or restrictions.
	Control valve does not shift properly.	Inspect, clean, repair, or replace control valve.
	Air in hydraulic system.	Cycle lift cylinders and bucket cylinders several times to free system of air.
	Tractor diverter valve in wrong position.	Turn diverter valve.
	Cylinder leaks.	Replace seals.
	Hydraulic plumbing incorrect.	Recheck plumbing.
	Faulty tractor hydraulic relief valve.	Clean or replace relief valve.
Loader chatters or vibrates when raising or lowering.	Mechanical binding of pivot areas.	Clean pivot pins. Grease as recommended.
	Air leak in inlet line.	Check, tighten, or replace inlet line.
	Air in hydraulic system.	Cycle lift cylinders and bucket cylinders.
	Oil level too low.	Add oil as required (or for cold weather operation).
Pump is noisy	Inlet line restricted or leaking	Check for air leaks, restrictions, or a collapsed hose. Tighten or replace hose. Change filter if necessary.
	Oil level too low.	Add oil as required.
	Pump worn or damaged.	Repair or replace pump.
Bucket tines bend or break	Only a few tines were under the load.	Be sure three or more tines are under the load.
Excessive wear on bucket cutting edge.	Bucket is riding on cutting edge instead of wear pads.	Use boom "FLOAT" position or bucket level indicator to ensure bucket rides on wear pads.

7 - SPECIFICATIONS

Loader specifications

140TL

Tractor Model	Workmaster™ Hydro-Static Transmission (HST) or mechanical transmission
Bucket	68 in. HD Mat'l
Tires	25X8.50-14 6PR (R4) front 43x16.00-20 4PR (R4) rear
Rated flow	31 L/min (8 US gpm)
Rated pressure	16671 kPa (2418 psi)
Rated engine speed	2600 RPM
(A) Maximum lift height (to bucket pivot pin)	2337 mm (92 in)
(B) Maximum lift height (under level bucket)	2134 mm (84 in)
(C) Clearance with bucket dumped	1626 mm (64 in)
(D) Reach at maximum lift height	1067 mm (42 in)
(E) Maximum dump angle	48°
(F) Reach with bucket on ground	1930 mm (76 in)
(G) Maximum roll back angle	28°
(H) Digging depth	127 mm (5 in)
Lift capacity (bucket pivot pin, max height)	571 kg (1259 lb)
Lift capacity (500 mm forward, max height)	400 kg (881 lb)
Lift capacity (bucket pivot pin, 1500 mm height)	729 kg (1607 lb)
Lift capacity (500 mm forward, 1500 mm height)	540 kg (1191 lb)
Breakout force (bucket pivot pin)	1233 kg (2719 lb)
Breakout force (500 mm forward)	867.7 kg (1913.0 lb)

NOTE: All cycle times measured at rated tractor engine speed.

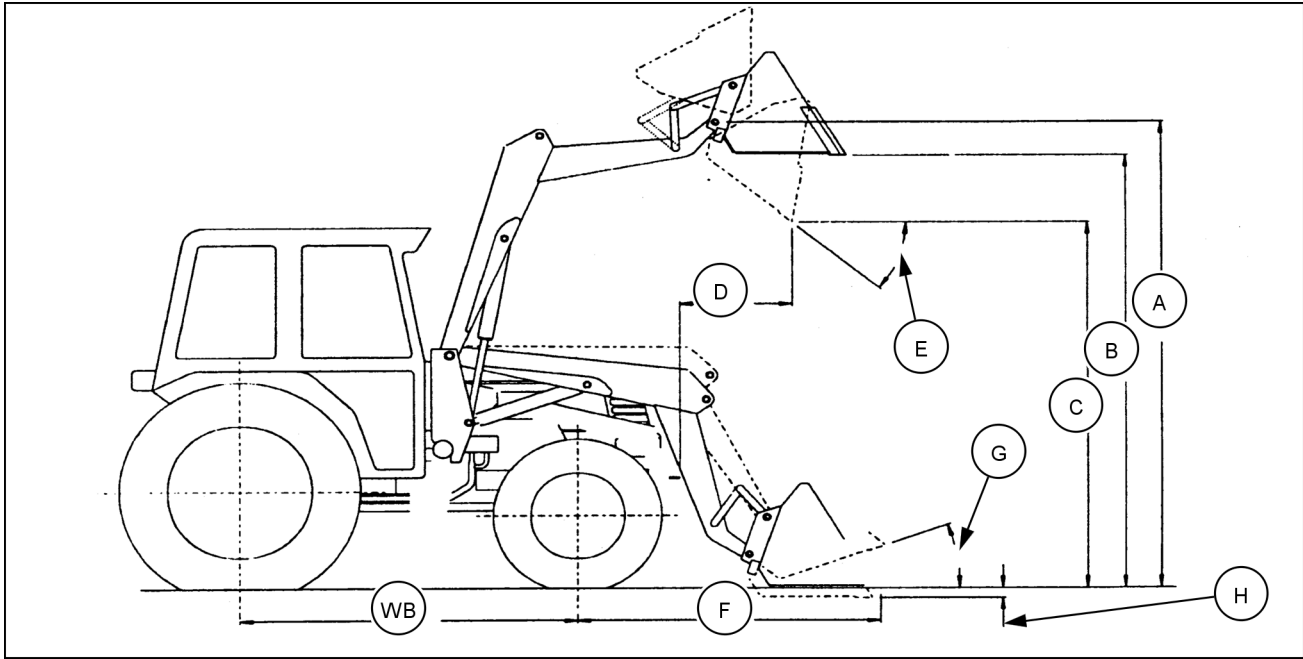
Tractor Model	Workmaster™ Hydro-Static Transmission (HST) or mechanical transmission
Raising time	4.1 s
Lowering time	2.1 s
Bucket Dumping time	2.1 s
Bucket Rollback time	1.9 s

NOTE: All cycle times measured at rated tractor engine speed.

Loader Buckets

Bucket Description	Capacity (Heaped)	Capacity (Struck)	Weight
1727 mm (68 in) Heavy Duty, Q.A.	0.405 m³ (14.41 ft³) (0.53 yd³)	0.33 m³ (11.69 ft³) (0.43 yd³)	122.7 kg (270 lb)

7 - SPECIFICATIONS



20022390B 1

- (A)** Maximum Lift Height to Pivot Pin
- (B)** Maximum Lift Height Under Level Bucket
- (C)** Clearance with Bucket Dumped @ 45°
- (D)** Reach at Maximum Lift Height with Bucket Dumped @ 45°
- (E)** Maximum Dump Angle

- (F)** Reach with Bucket on Ground
- (G)** Maximum Rollback Angle
- (H)** Digging Depth
- (WB)** Wheelbase

Weight Limitations

Rear Counter Weight Bracket (Optional)

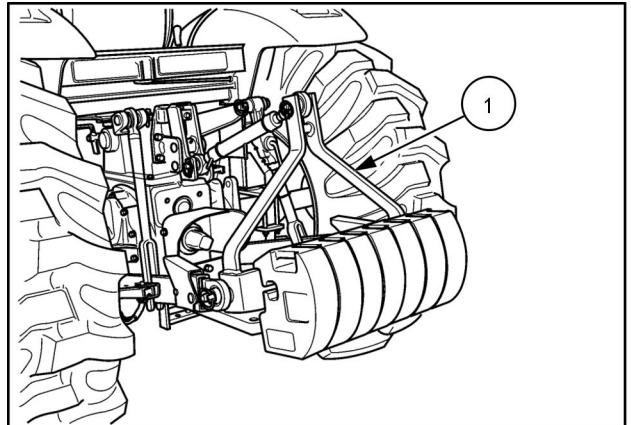
Weight bracket (1) fits any 3 point hitch. Maximum of seven suitcase weights.

27 kg (60 lb) each - **191.0 kg (420 lb)** total

or

(2) **27 kg (60 lb)**

(5) **45 kg (100 lb)** - **282 kg (620 lb)** total

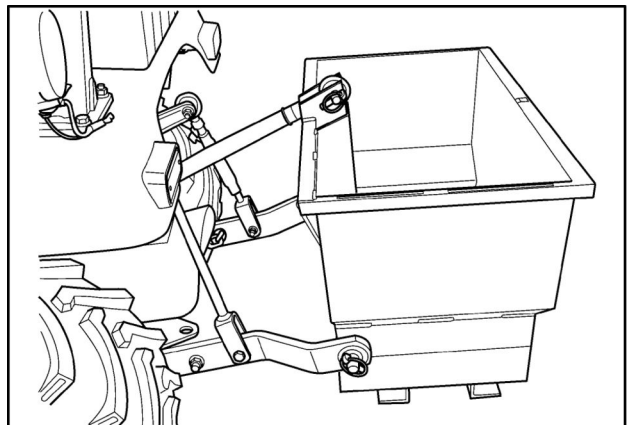


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Ballasting Box

A Category-1, 3-point hitch, **180 kg (400 lb)** capacity ballasting box may be purchased as extra equipment. Load with sand, gravel, or similar loose ballast as needed

	Weight (empty)	Weight (loaded)
3-Point Hitch Ballasting Box	46 kg (101 lb)	228 kg (502 lb)



10036705 2

Liquid ballast

Recommended ballasting/counterbalance weights

Tires should never be filled beyond **75%**. At **75%** full, the liquid will come to the valve stem when the valve stem is at its highest point at the top of the wheel.

(Optional)

It is a common practice to add weight to the tractor by filling the rear tires with liquid. A calcium chloride (CaCl₂) and water solution is recommended due to its low freezing point and greater density (weight per gallon) than pure water.

Never exceed the total recommended weight for the tractor. Because special equipment is required to fill the tires, consult your New Holland Dealer.

⚠ WARNING

Roll-over hazard!

Before operating a tractor with a loader, ballast the tractor-loader combination so that a minimum of 25 percent of the total weight is on the rear wheels, with the rated load in the bucket in maximum forward position.

Failure to comply could result in death or serious injury.

W0291A

Workmaster™ Hydro-Static Transmission (HST) or mechanical transmission			
Ballast Type		Tire Size/Type	Approximate Added Weight
A	Rear tire liquid ballast- Calcium chloride, 75% fill 5 lb solution	11.2 x 24, 4PR, R1 (AG) 13.6 x 16, 4PR, R3 (TURF) 41/18LL x 16.1, 6PR, R3 (TURF) 19.50 x 15, 6PR, R4 (INDUSTRIAL)	115 kg (253 lb) 151 kg (333 lb) NA 152 kg (334 lb)
B	Rear wheel weight	AG Maximum of 2 weights per wheel @ 47.3 kg (105 lb) each. TURF NA INDUSTRIAL Maximum of 2 weights per wheel @ 34 kg (75 lb) each.	191 kg (420 lb) Total NA 136 kg (300 lb)
C	3-Point hitch bracket and counterweights	Maximum of suitcase weights 7 @ 27 kg (60 lb) each or 5 @ 45 kg (100 lb) each and 2 @ 27 kg (60 lb) each	191 kg (420 lb) Total 282 kg (620 lb)

NOTICE: Recommended ballasting choice is either 'A' or the combination of 'B' and 'C'.

7 - SPECIFICATIONS

140TL on a Workmaster™ Hydro-Static Transmission (HST) or mechanical transmission (25% on Rear Axle)								
Option	Bucket Load @ Hood Height [kg (lbs)]	Wheel Ballast [kg (lbs)]	Hitch Ballast [kg (lbs)]	Total Weight [kg (lbs)]	Front Axle Load [kg (lbs)]	Rear Axle Load [kg (lbs)]	Front Axle, %	Rear Axle, %
A Liquid in Rear Tires (0) Wheel Weights	399 kg (880 lb)	445 kg (980 lb)	116 kg (255 lb)	2784 kg (6125 lb)	2088 kg (4594 lb)	696 kg (1531 lb)	75%	25%
B No Liquid in Rear Tires (0) Wheel Weights	499 kg (1100 lb)	0	370 kg (815 lb)	2593 kg (5705 lb)	1945 kg (4279 lb)	648 kg (1426 lb)	75%	25%

A - liquid is **5 lb** solution of calcium chloride to 75% full, **490 lb** per tire (**980 lb** total) for grand total of **980 lb** on rear axle + additional hitch weight

B - Added counterbalance weight is added weight to the 3-point hitch only

NOTE: 43 x 16–20 R-4 tire size

Tire pressure

NOTICE: Tire pressure must be considered when adding weights, implements, or attachments to the tractor or damage to the tractor may occur.

NOTICE: Do not install loader onto tractor equipped with galaxy turf tires. The turf tires cannot handle the added weight of loader, and damage may occur to the tractor.

Front Tire Inflation Pressures		
Tire Type	Tire Size	Inflation Pressure
Agricultural FWD	7-14, 4PR, R1	60 – 180 kPa (8 – 26 psi)
Turf FWD	24 x 8.5-14, 4PR, R3	60 – 150 kPa (8 – 22 psi)
	25 x 8.50-14, 4PR, R3	0.6 – 2.2 bar (8 – 32 psi)
	25/10.50LL x 15, 6PR, R3	60 kPa (8 psi)
Industrial (R4)	25 x 8.50-14, 6PR, R4	60 – 220 kPa (8 – 32 psi)
Rear Tire Inflation Pressures		
Agricultural	11.2-24, 4PR, R1	80 – 120 kPa (12 – 18 psi)
Turf	13.6-16, 4PR, R3	80 – 100 kPa (12 – 14 psi)
	41 x 14.00-20, 4PR, R3	0.8 – 1.7 bar (12 – 25 psi)
	41/18LL x 16.1, 6PR, R3	40 kPa (6 psi)
Industrial (R4)	15-19.50, 6PR, R4	80 – 140 kPa (12 – 20 psi)
	43 x 16-20, 4PR, R4	0.8 – 1.4 bar (12 – 20 psi)

NOTICE: Do not under-inflate tires.

WARNING

Explosion hazard!

When inflating tires, use a clip-on air chuck with a gauge, remote valve, and hose long enough to allow you to stand to one side and NOT in front of or over the wheel assembly. Keep others out of the DANGER AREA. Never inflate a tire beyond the maximum allowable pressure printed on the tire.

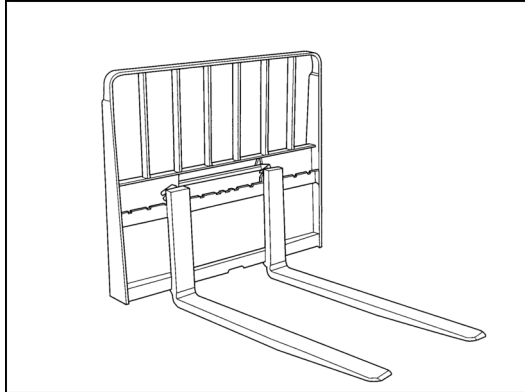
Failure to comply could result in death or serious injury.

W0059A

8 - ACCESSORIES

Attachments

"Quick Attach" Only



19990486 1

Attachment Description	Size	Weight
Pallet Forks [1067 mm (42 in) or 1219 mm (48 in)] Frame and Forks sold separately	1067 mm (42 in) or 1219 mm (48 in)	Frame - 104 kg (230 lb) 1067 mm (42 in) - 73 kg (160 lb) 1219 mm (48 in) - 100 kg (220 lb)

9 - FORMS AND DECLARATIONS

Delivery Report- Owner Copy - Owner Copy

Delivery Date			
Owner's Name			
Address			
Dealer's Name			
Address			
Unit:	Model	Product Identification Number	
Attachment:	Model	Product Identification Number	
	Model	Product Identification Number	
	Model	Product Identification Number	

Using the operator's manual as a guide, instruction was given as indicated by the check marks.

- () Safety precautions and practice
- () Lubrication points and schedule
- () Maintenance areas, adjustments, and schedule
- () Field adjustments for various crop conditions
- () Operation
- () Use of optional equipment
- () Preseason service
- () End-of-season service
- () Proper use of operator's manual
- () Customer given operator's manual
- () All safety shielding is installed

Dealer Representative's Signature _____

"I have been instructed in the operation, maintenance, and safety features of this machine as detailed in the operator's manual."

Owner's Signature _____

Delivery report - Dealer copy - Dealer Copy

Delivery Date			
Owner's Name			
Address			
Dealer's Name			
Address			
Unit:	Model	Product Identification Number	
Attachment:	Model	Product Identification Number	
	Model	Product Identification Number	
	Model	Product Identification Number	

Using the operator's manual as a guide, instruction was given as indicated by the check marks.

- ☐ Safety precautions and practice
- ☐ Lubrication points and schedule
- ☐ Maintenance areas, adjustments, and schedule
- ☐ Field adjustments for various crop conditions
- ☐ Operation
- ☐ Use of optional equipment
- ☐ Preseason service
- ☐ End-of-season service
- ☐ Proper use of operator's manual
- ☐ Customer given operator's manual
- ☐ All safety shielding is installed

Dealer Representative's Signature _____

"I have been instructed in the operation, maintenance, and safety features of this machine as detailed in the operator's manual."

Owner's Signature _____

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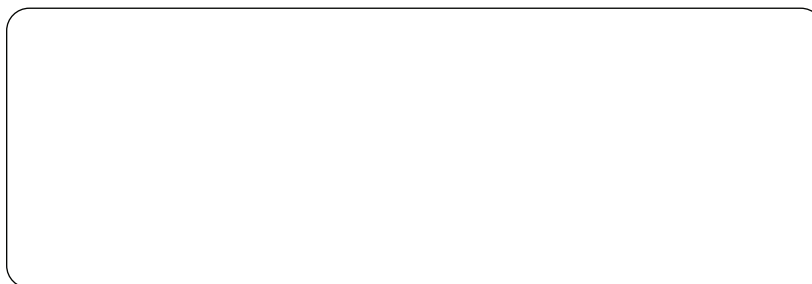
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Dealer's stamp



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