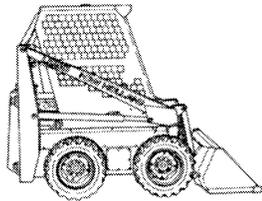


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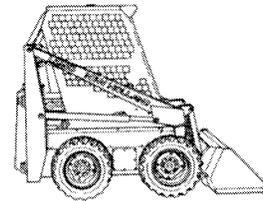
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**SKID LOADER  
REPAIR  
L250, L255**

**Vol. 1  
86610462**



**SKID LOADER  
REPAIR  
L250, L255**

**Vol. 1  
86610462**



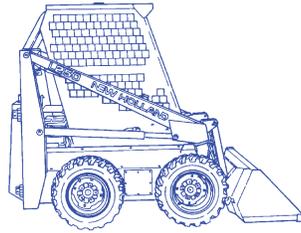
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# NEW HOLLAND

# L250

# L255

Section 1 -  
General Information, Cab, Seat, and  
Attachment Mounting Plate

Section 2 -  
Engine

# REPAIR MANUAL



NEW HOLLAND

**SERVICE**

# **L250, L255 REPAIR MANUAL CONTENTS**



**SECTION 1 - GENERAL INFORMATION,  
CAB, SEAT, AND ATTACHMENT  
MOUNTING PLATE**

**SECTION 2 - ENGINE**

**SECTION 3 - ELECTRICAL SYSTEM**

**SECTION 4 - FINAL DRIVE, HYDROSTATIC SYSTEM,  
HYDRAULIC SYSTEM**

---

# SECTION 1

## GENERAL INFORMATION, CAB, SEAT, AND ATTACHMENT MOUNTING PLATE

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## INTRODUCTION

This service manual provides the technical information needed to properly service and maintain the model L250 and L255 skid steers. Use it in conjunction with the operator's manual, which is supplied with the skid steer. Keep both manuals available for ready reference.

The L250 and L255 skid steers have many similarities. The major differences are engine type (gasoline or diesel), horsepower and lifting capacity.

Whenever working on New Holland equipment, left and right sides of the machine are determined by standing behind the unit, looking in the direction of forward travel.

The easiest and least time-consuming removal, disassembly, and reassembly procedures are detailed in the manual. Modifying these procedures is not recommended.

New Holland skid steers have been designed with emphasis on safety for operator protection. However, careless and negligent operation can still result in serious injury to persons or property. Be sure to read and follow all safety instructions in this manual.

Your New Holland dealer is interested in your obtaining the most from your investment and will be glad to answer any questions you may have about your skid steer. When major service is required, your dealers staff of trained service technicians is ready to serve you.

When in need of parts, always order genuine New Holland service parts from your New Holland dealer. Be prepared to give your dealer the model and serial number of the engine and skid steer (the location of these numbers is described later in this section).

Record the serial numbers here:

Loader Model	_____
Loader Serial Number	_____
Engine Model	_____
Engine Serial Number	_____



**CAUTION: THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER YOUR OWN PERSONAL SAFETY OR THE SAFETY OF OTHERS IS INVOLVED. TAKE TIME TO BE CAREFUL!**

## IMPROVEMENTS

New Holland is continually striving to improve its products. We must, therefore, 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.

**ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.**

## **PRECAUTIONARY STATEMENTS PERSONAL SAFETY**

Throughout this manual and on machine decals, you will find precautionary statements (“CAUTION”, “WARNING”, and “DANGER”) followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



**CAUTION: THE WORD “CAUTION” IS USED WHERE A SAFE BEHAVIORAL PRACTICE ACCORDING TO OPERATING AND MAINTENANCE INSTRUCTIONS AND COMMON SAFETY PRACTICES WILL PROTECT THE OPERATOR AND OTHERS FROM ACCIDENT INVOLVEMENT.**



**WARNING: THE WORD “WARNING” DENOTES A POTENTIAL OR HIDDEN HAZARD WHICH HAS A POTENTIAL FOR SERIOUS INJURY. IT IS USED TO WARN OPERATORS AND OTHERS TO EXERCISE EVERY APPROPRIATE MEANS TO AVOID A SURPRISE INVOLVEMENT WITH MACHINERY.**



**DANGER: THE WORD “DANGER” DENOTES A FORBIDDEN PRACTICE IN CONNECTION WITH A SERIOUS HAZARD.**

**FAILURE TO FOLLOW THE “CAUTION”, “WARNING”, AND “DANGER” INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.**

## **MACHINE SAFETY**

Additional precautionary statements (“ATTENTION” and “IMPORTANT”) are followed by specific instructions. These statements are intended for machine safety.

*ATTENTION: The word “ATTENTION” is used to warn the operator of potential machine damage if a certain procedure is not followed.*

*IMPORTANT: The word “IMPORTANT” is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.*

## **SAFETY PRECAUTIONS**

**UNSAFE OPERATING PRACTICES AND IMPROPER USE OF THE SKID-STEER LOADER AND ITS ATTACHMENTS ON THE PART OF THE OPERATOR CAN RESULT IN INJURIES. OBSERVE THE FOLLOWING SAFETY PRECAUTIONS AT ALL TIMES:**

- 1. FOR SERVICING, THE LOADER SHOULD BE ON LEVEL TERRAIN, ENGINE STOPPED WITH THE WHEELS BLOCKED OR THE ENTIRE LOADER SOLIDLY SUPPORTED WITH THE WHEELS OFF THE GROUND BEFORE SERVICING ANY COMPONENT OF THE DRIVE TRAIN.**
- 2. FOR SERVICING UNDER THE OPERATOR'S SEAT, REMOVE THE SEAT AND PAN ASSEMBLY FROM THE LOADER.**
- 3. DO NOT OPERATE THE LOADER UNLESS THE SEAT IS IN THE OPERATE POSITION.**
- 4. DO NOT SERVICE THE LOADER WITH A RAISED BOOM UNLESS THE BOOM IS RESTING ON THE BOOM LOCK PINS.**
- 5. DO NOT SERVICE THE LOADER WITH THE ENGINE RUNNING UNLESS THE LOADER IS PROPERLY AND SECURELY SUPPORTED WITH ALL FOUR WHEELS OFF THE GROUND.**
- 6. REINSTALL ALL SHIELDS REMOVED FOR SERVICE.**
- 7. NEVER LOOSEN ANY HYDRAULIC CONNECTIONS BEFORE RELIEVING THE PRESSURE IN THE HYDRAULIC SYSTEM.**
- 8. WEAR EYE PROTECTION SUCH AS GOGGLES ETC.**
- 9. WEAR EAR PROTECTION SUCH AS EAR PLUGS ETC. WHEN YOU FEEL THE NOISE LEVEL IS UNCOMFORTABLE.**
- 10. IF ANY SERVICING OR ADJUSTMENTS REQUIRE THE BATTERY TO BE DISCONNECTED, DISCONNECT THE (-) NEGATIVE GROUND CABLE.**
- 11. WHEN SERVICING ELECTRICAL COMPONENTS, DISCONNECT THE (-) NEGATIVE GROUND CABLE.**
- 12. IF THE ELECTRICAL COMPONENTS REQUIRES REMOVAL FROM THE SKID-STEER LOADER DISCONNECT THE (-) NEGATIVE GROUND BATTERY CABLE. THIS WILL SHUT OFF POWER TO THE ELECTRICAL SYSTEM AND PREVENT DAMAGE TO THE COMPONENTS IF ACCIDENTALLY GROUNDED.**
- 13. IF WELDING IS REQUIRED ON THE SKID STEER LOADER, DISCONNECT THE (-) NEGATIVE GROUND CABLE. FAILURE TO DISCONNECT THE BATTERY MAY RESULT IN DAMAGE TO THE ELECTRICAL SYSTEM AND COMPONENTS.**
- 14. IF WELDING IS REQUIRED ON AN ATTACHMENT REMOVE THE ATTACHMENT FROM THE SKID-STEER LOADER.**
- 15. GIVE COMPLETE AND UNDIVIDED ATTENTION TO THE JOB AT HAND SO THAT COMPLETE CONTROL OF THE LOADER IS MAINTAINED AT ALL TIMES.**
- 16. DRIVE SLOWLY OVER ROUGH GROUND AND ON SLOPES, KEEP ALERT FOR HOLES, DITCHES AND OTHER IRREGULARITIES THAT MAY CAUSE THE LOADER TO OVERTURN.**
- 17. AVOID STEEP HILLSIDE OPERATION WHICH COULD CAUSE THE LOADER TO OVERTURN.**
- 18. NEVER TRANSPORT A LOADED BUCKET AT FULL HEIGHT. OPERATE THE LOADER WITH THE LOAD AS LOW AS POSSIBLE UNTIL IT BECOMES NECESSARY TO RAISE THE BOOM TO DISCHARGE THE LOAD INTO A TRUCK, CONTAINER, ETC.**
- 19. REDUCE SPEED WHEN TURNING SO THERE IS NO DANGER OF THE LOADER OVERTURNING.**
- 20. NEVER DRIVE UP OR BACK UP A HILL OR INCLINE WITH A RAISED BOOM OR THE LOADER COULD OVER TURN.**
- 21. ALWAYS LOOK BEHIND YOU BEFORE BACKING UP THE LOADER.**

22. MAINTAIN PROPER TRANSMISSION OIL LEVEL TO PREVENT LOSS OF HYDROSTATIC BRAKING.
23. DO NOT ALLOW PASSENGERS TO RIDE ON THE LOADER AT ANY TIME.
24. DO NOT ALLOW CHILDREN TO OPERATE THE LOADER OR RIDE ON THE LOADER AT ANY TIME.
25. DO NOT ALLOW ANYONE TO OPERATE THE LOADER WITHOUT PROPER INSTRUCTION.  
OSHA REQUIRES THAT ALL OPERATORS BE INSTRUCTED ON THE PROPER OPERATION OF THE MACHINE BEFORE THEY OPERATE THE UNIT.
26. DO NOT OPERATE THE LOADER IN ANY POSITION OTHER THAN WHILE IN THE OPERATOR'S SEAT WITH THE SEAT BELT SECURELY FASTENED.
27. BEFORE STARTING THE ENGINE, BE SURE THAT ALL OPERATING CONTROLS ARE IN NEUTRAL AND PARKING BRAKE IS ENGAGED.
28. NEVER OPERATE THE LOADER ENGINE IN A CLOSED BUILDING WITHOUT ADEQUATE VENTILATION.
29. REFUEL THE LOADER OUTDOORS WITH THE ENGINE SHUT OFF. REPLACE THE FUEL CAP SECURELY. USE AN APPROVED FUEL CONTAINER. DO NOT SMOKE WHEN HANDLING FUEL. AVOID SPILLING FUEL.
30. AFTER OPERATING THE ENGINE, NEVER TOUCH THE MUFFLER, EXHAUST PIPE, ENGINE OR RADIATOR UNTIL THEY HAVE HAD TIME TO COOL.
31. DRESS APPROPRIATELY - WEAR RELATIVELY TIGHT-FITTING CLOTHING WHEN OPERATING THE LOADER. LOOSE OR TORN CLOTHING CAN CATCH IN MOVING PARTS OR CONTROLS.
32. BEFORE SERVICING THE LOADER OR ANY OF ITS ATTACHED EQUIPMENT, BE SURE THAT THE ATTACHMENTS ARE LOWERED TO THE GROUND OR THAT THE BOOM ARMS ARE SUPPORTED BY THE BOOM LOCKPINS.
33. DO NOT WORK UNDER OVERHANGS, ELECTRIC WIRES, OR WHERE THERE IS DANGER OF A SLIDE.
34. WEAR AN APPROVED SAFETY HAT WHEN OPERATING THE MACHINE AND WHILE IN ANY WORK AREA.
35. WHEN DRIVING THE LOADER ON A ROAD OR HIGHWAY, USE WARNING LIGHTS OR WARNING DEVICES AS MAY BE REQUIRED BY LOCAL OR STATE GOVERNMENT REGULATIONS. HEADLIGHTS, WARNING LIGHTS AND SMV SIGNS ARE AVAILABLE THROUGH YOUR NEW HOLLAND DEALER.
36. KEEP THE LOADER CLEAN. DO NOT ALLOW DIRT, DEBRIS OR OTHER ARTICLES TO ACCUMULATE IN THE CAB, FLOOR OR FOOT CONTROL PEDAL AREA THAT MAY HINDER SAFE MACHINE OPERATION.
37. NEVER OPERATE THE LOADER WITH ANY OF THE SHIELDING REMOVED.
38. NEVER OPERATE THE LOADER WITHOUT WINDOWS AND/OR SCREENS IN PLACE.
39. NEVER EXTEND ANY PART OF THE BODY OUTSIDE OF THE OPERATOR'S AREA.
40. ALWAYS PROPERLY TIE DOWN THE SKID-STEER LOADER TO A TRUCK OR TRAILER BEFORE TRANSPORT.
41. MAKE SURE ALL BYSTANDERS ARE AT A SAFE DISTANCE AWAY FROM THE LOADER BEFORE STARTING THE ENGINE.
42. DO NOT ALLOW ANYONE NEAR THE LOADER WHILE THE ENGINE IS RUNNING AND THE LOADER IS OPERATIONAL.
43. WHEN USING THE SKID-STEER LOADER TO CRANE OBJECTS, DO NOT ALLOW ANY PERSON TO RIDE ON OBJECTS BEING CRANED.
44. DO NOT USE THE SKID-STEER LOADER AS A WORK PLATFORM FOR SUPPORTING MATERIALS.
45. DO NOT LIFT PERSONNEL OR ALLOW PERSONNEL TO WORK WHILE STANDING IN THE BUCKET OR ON OTHER ATTACHMENTS. THIS IS NOT A MAN-LIFT.

OSHA REQUIREMENTS NOW MAKE IT THE EMPLOYER'S RESPONSIBILITY TO FULLY INSTRUCT EACH OPERATOR IN THE PROPER AND SAFE OPERATION OF ALL OPERATIVE EQUIPMENT. BOTH EMPLOYER AND EMPLOYEE SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH THE FOLLOWING SECTIONS.

***IMPORTANT: Be a safe operator. Before attempting to operate the loader, thoroughly acquaint yourself with:***

1. The safety information in the operator's manual and the skid-steer loader safety manual.
2. The operating instructions in the operator's manual.
3. The controls on the loader and their operation.



**CAUTION: SOME PICTURES IN THIS MANUAL SHOW SAFETY SHIELDS REMOVED OR OPEN TO SHOW PARTS BEING SERVICED OR FOR CLARITY. ALL SHIELDS SHOULD BE CLOSED OR REPLACED PRIOR TO OPERATING THE MACHINE.**



**DANGER: FASTEN SEAT BELT BEFORE STARTING ENGINE!**

**THIS LOADER IS A VERY STABLE UNIT, BUT IT CAN BE UPSET IF STOPPED SUDDENLY WHEN THE BUCKET IS RAISED AND LOADED.**

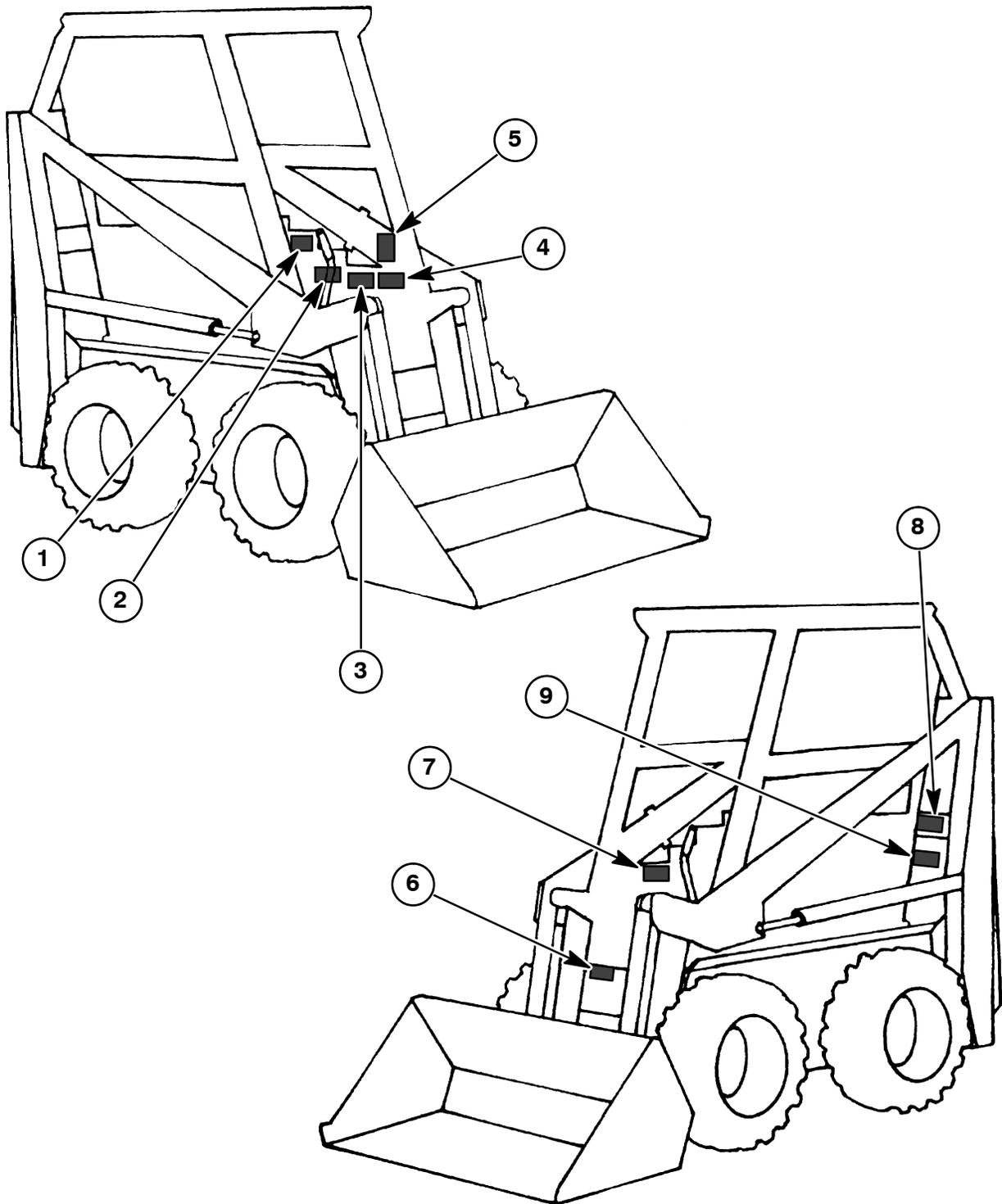
**THEREFORE, DO NOT START THE ENGINE BEFORE SECURELY FASTENING THE SEAT BELT, AND CARRY THE LOAD LOW.**

## SAFETY DECALS

The following safety decals have been placed on the machine in the areas indicated. They are intended for your personal safety and for those working with you. Please take this manual and walk around your machine to note the content and location of these warning signs.

Review these warning signs and the operating instructions detailed in this manual with your machine operators.

Keep the decals legible. If they are not legible, replace. The decal part numbers are listed with each decal.





1

**CAUTION: DO NOT ALLOW ANY-ONE TO OPERATE THE LOADER WITHOUT PROPER INSTRUCTION.**

**PART #86521688**



3

**WARNING: NEVER OPERATE THE LOADER WITHOUT THE SEAT BELT SECURELY FASTENED.**

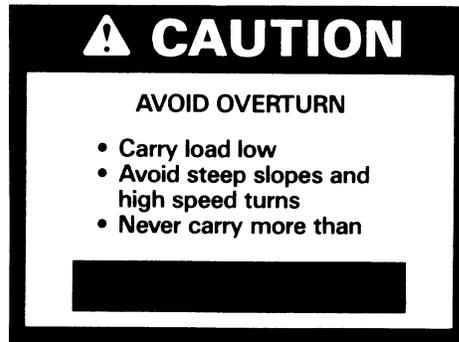
**PART #86521686**



2

**DANGER: THIS CAB IS PROVIDED FOR YOUR SAFETY. DO NOT REMOVE THE CAB.**

**PART #766417**



4

**CAUTION: AVOID OVERTURN. NEVER LIFT MORE THAN THE MAXIMUM SAE LOAD RATING OF THE LOADER. NEVER TRANSPORT A LOADED BUCKET AT FULL HEIGHT. OPERATE THE LOADER WITH LOAD AS LOW AS POSSIBLE.**

**L250 - 306 KG (600 LBS.) (#857679)  
L255 - 318 KG (700 LBS.) (#9828824)**

**PART #849959**



5

**DANGER: BEFORE EXITING THE LOADER, LOWER THE LIFT ARMS AND ATTACHMENT TO THE GROUND OR REST LIFT ARMS ON THE BOOM STOPS. STOP ENGINE AND ENGAGE THE PARKING BRAKE.**

**PART #86521683**



6

**DANGER: DO NOT ALLOW PASSENGERS TO RIDE ON THE LOADER AT ANY TIME.**

**PART #86521685**



8

**WARNING: KEEP CLEAR! ROTATING FAN — STOP ENGINE.**

**PART #9828825**



7

**CAUTION: SWITCHES IN SEAT AND SEAT BELT PREVENT OPERATION OF LIFT ARMS AND STARTER UNLESS OPERATOR IS IN SEAT WITH SEAT BELT BUCKLED. DO NOT BYPASS SWITCHES.**

**PART #9604252**



9

**CAUTION: DO NOT USE STARTING FLUID. AIR HEATER MAY IGNITE STARTING FLUID AND CAUSE AN EXPLOSION.**

**PART #847363**

## GENERAL SAFETY INFORMATION

### HANDLE FLUIDS SAFELY

When you work around fuel or other flammable material, do not smoke, work near heaters or work near other fire hazards.

Do not store flammable material in open containers.

Store flammable fluids away from fire hazards.

Do not incinerate or puncture pressurized containers.

Make sure machine is clean of dirt, grease, oil, and debris.

Do not store oily rags; they can ignite and burn spontaneously.

Keep a first aid kit and fire extinguisher handy.

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

### AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders.

Do not heat by welding, soldering, or using a torch near pressurized fluid lines.

Pressurized lines can be accidentally cut or damaged when heat goes beyond the immediate flame area.

### USE CARE AROUND HIGH-PRESSURE FLUID LINES

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

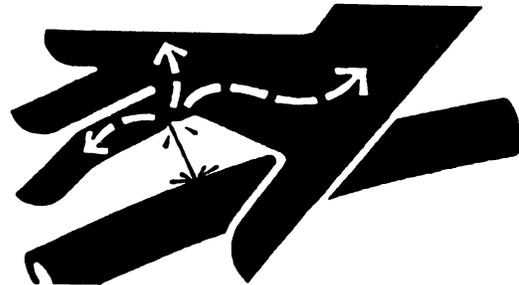
Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines.

Tighten all line connections before applying pressure.

Check for leaks with a piece of cardboard.

Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.



## **USE CARE IN HANDLING AND SERVICING BATTERIES**

### **Prevent Battery Explosions**

Keep sparks, lighted matches, and open flame away from the top of the battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Do not charge a frozen battery; it may explode. Warm the battery to 16° C (60° F).



**WARNING: IF ANY SERVICING OR ADJUSTMENTS REQUIRE THE BATTERY TO BE DISCONNECTED, OR WELDING IS REQUIRED ON THE SKID-STEER LOADER, DISCONNECT THE (-) NEGATIVE GROUND CABLE. FAILURE TO DISCONNECT THE BATTERY MAY RESULT IN DAMAGE TO THE EIC (ELECTRONIC INSTRUMENT CLUSTER) MONITORING SYSTEM AND OTHER ELECTRICAL COMPONENTS.**

**WARNING: IF WELDING ON AN ATTACHMENT IS REQUIRED, FIRST REMOVE THE ATTACHMENT FROM THE LOADER BOOM ATTACHING PLATE.**



**WARNING: ENGINE STARTING WITH A BOOSTER BATTERY REQUIRES EXTREME CARE AS BATTERIES PRODUCE EXPLOSIVE GASES. THE SLIGHTEST SPARK CAN CAUSE AN EXPLOSION.**

### **FOLLOW THESE SAFETY TIPS:**

- 1. ALWAYS SHIELD YOUR EYES WHEN CHARGING OR WORKING NEAR A BATTERY. ALWAYS PROVIDE GOOD VENTILATION.**
- 2. COVER THE BATTERY WITH A PIECE OF CARPET OR OTHER HEAVY MATERIAL. DO NOT REMOVE THE BATTERY VENT CAPS.**
- 3. CONNECT ONE CABLE TO THE (+) POSITIVE TERMINAL OF THE WEAK BATTERY. CONNECT THE OTHER END OF THE CABLE TO THE (+) POSITIVE TERMINAL OF THE STRONGER BATTERY.**
- 4. CONNECT THE SECOND CABLE TO THE (-) NEGATIVE TERMINAL OF THE STRONGER BATTERY.**
- 5. CONNECT THE REMAINING (-) NEGATIVE CABLE END TO THE ENGINE BLOCK OR STARTER GROUND TERMINAL.**
- 6. REVERSE THIS PROCEDURE WHEN DISCONNECTING THE BOOSTER.**

## **USE SAFE SERVICE PROCEDURES**

### **Wear Protective Clothing**

Do not wear loose clothing.

Wear close-fitting clothing.

Wear safety glasses or face shield as required.

Wear other safety equipment appropriate to the job.

Wear earplugs or earmuffs as required.

### **SERVICE MACHINES SAFELY**

Use caution when working around moving parts.

If servicing requires the boom to be in the raised position, support the boom on the boom locks and remove any attachment from the boom mounting plate. If servicing requires the complete loader to be in the supported position, support all four wheels off the ground using adequate jack stands or blocks.

If servicing requires the engine to be operated, raise the machine and properly support the unit with adequate jack stands or blocking with all four wheels off the ground.



**BEFORE SERVICING THE LOADER OR ANY OF ITS ATTACHED EQUIPMENT, BE SURE THAT THE ATTACHMENTS ARE LOWERED TO THE GROUND OR THE BOOM ARMS ARE SUPPORTED BY THE BOOM LOCK PINS.**

## **USE PROPER TOOLS**

Use tools appropriate for the job.

If tilting of the cab is required, use the proper tools and follow the procedure for tilting the cab in Section 1 of this manual.

## **REVIEW SAFETY EQUIPMENT, SIGNS AND SHIELDS**

Replace missing or damaged safety decals.

Reinstall all shielding removed for servicing.

Replace any damaged or missing shielding.

## **CONTROLS**

Operate unit and check machine functions for proper operation.

Check seat belt for proper operation, wear, and damage - replace as needed.

Check operator restraint system for proper operation.

Check mechanical boom locks for proper operation.

Check parking brake for proper operation and adjustment.

# MINIMUM HARDWARE TIGHTENING TORQUES

IN FOOT POUNDS (NEWTON-METERS) FOR NORMAL ASSEMBLY APPLICATIONS

## INCH HARDWARE AND LOCKNUTS

NOMINAL SIZE	SAE GRADE 2		SAE GRADE 5		SAE GRADE 8		LOCKNUTS		NOMINAL SIZE
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	GR.B w/GR5 BOLT	GR.C w/GR8 BOLT	
1/4	55* (6.2)	72* (8.1)	86* (9.7)	112* (13)	121* (14)	157* (18)	61* (6.9)	86* (9.8)	1/4
5/16	115* (13)	149* (17)	178* (20)	229* (26)	250* (28)	324* (37)	125* (14)	176* (20)	5/16
3/8	17 (23)	22 (30)	26 (35)	34 (46)	37 (50)	48 (65)	19 (26)	26 (35)	3/8
7/16	27 (37)	35 (47)	42 (57)	54 (73)	59 (80)	77 (104)	30 (41)	42 (57)	7/16
1/2	42 (57)	54 (73)	64 (87)	83 (113)	91 (123)	117 (159)	45 (61)	64 (88)	1/2
9/16	60 (81)	77 (104)	92 (125)	120 (163)	130 (176)	169 (229)	65 (88)	92 (125)	9/16
5/8	83 (112)	107 (145)	128 (174)	165 (224)	180 (244)	233 (316)	90 (122)	127 (172)	5/8
3/4	146 (198)	189 (256)	226 (306)	293 (397)	319 (432)	413 (560)	160 (217)	226 (306)	3/4
7/8	142 (193)	183 (248)	365 (495)	473 (641)	515 (698)	667 (904)	258 (350)	364 (494)	7/8
1	213 (289)	275 (373)	547 (742)	708 (960)	773 (1048)	1000 (1356)	386 (523)	545 (739)	1

**NOTE:** Torque values shown with \* are inch pounds.

### IDENTIFICATION CAP SCREWS AND CARRIAGE BOLTS



SAE GRADE 2



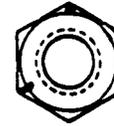
SAE GRADE 5



SAE GRADE 8



REGULAR NUTS

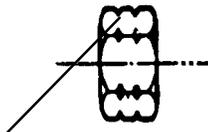


SAE GRADE 5  
HEX NUTS



SAE GRADE 8  
HEX NUTS

### LOCKNUTS



GRADE IDENTIFICATION

GRADE A NO NOTCHES

GRADE B ONE CIRCUMFERENTIAL NOTCH

GRADE C TWO CIRCUMFERENTIAL NOTCHES



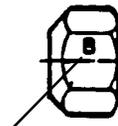
GRADE IDENTIFICATION

GRADE A NO MARKS

GRADE B THREE MARKS

GRADE C SIX MARKS

MARKS NEED NOT BE LOCATED AT CORNERS



GRADE IDENTIFICATION

GRADE A NO MARK

GRADE B LETTER B

GRADE C LETTER C

# MINIMUM HARDWARE TIGHTENING TORQUES

IN FOOT POUNDS (NEWTON-METERS) FOR NORMAL ASSEMBLY APPLICATIONS

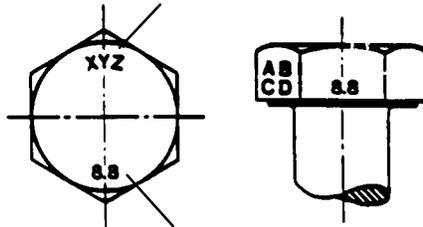
## METRIC HARDWARE AND LOCKNUTS

NOMINAL SIZE	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCKNUT CL.8 W/CL8.8 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	
M4	15* (1.7)	19* (2.2)	23* (2.6)	30* (3.4)	33* (3.7)	42* (4.8)	16* (1.8)
M6	51* (5.8)	67* (7.6)	79* (8.9)	102* (12)	115* (13)	150* (17)	56* (6.3)
M8	124* (14)	159* (18)	195* (22)	248* (28)	274* (31)	354* (40)	133* (15)
M10	21 (28)	27 (36)	32 (43)	41 (56)	45 (61)	58 (79)	22 (30)
M12	36 (49)	46 (63)	55 (75)	72 (97)	79 (107)	102 (138)	39 (53)
M16	89 (121)	117 (158)	137 (186)	177 (240)	196 (266)	254 (344)	97 (131)
M20	175 (237)	226 (307)	277 (375)	358 (485)	383 (519)	495 (671)	195 (265)
M24	303 (411)	392 (531)	478 (648)	619 (839)	662 (897)	855 (1160)	338 (458)

NOTE: Torque values shown with \* are inch pounds.

### IDENTIFICATION HEX CAP SCREW AND CARRIAGE BOLTS CLASSES 5.6 AND UP

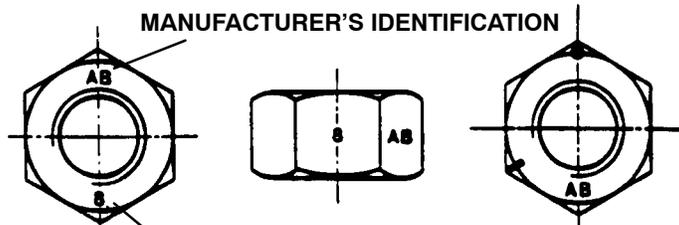
#### MANUFACTURER'S IDENTIFICATION



#### PROPERTY CLASS

### HEX NUTS AND LOCKNUTS CLASSES 05 AND UP

#### MANUFACTURER'S IDENTIFICATION



#### PROPERTY CLASS

#### CLOCK MARKING

## 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.

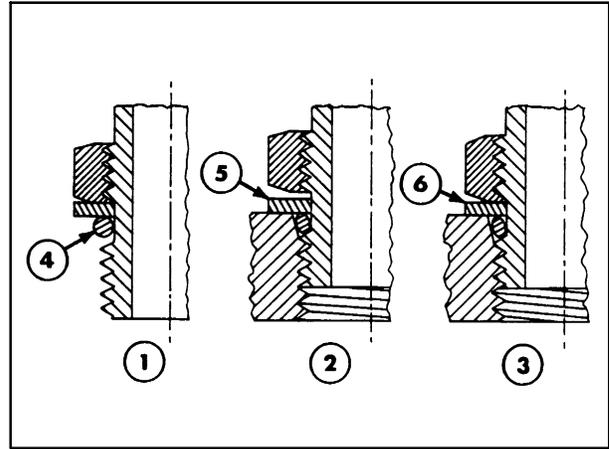


Figure 1-1

## 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			
	In.	mm		FOOT POUNDS		NEWTON METERS		FOOT POUNDS		NEWTON METERS	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
4	1/4	6.4	7/16-20	9	12	12	16	6	10	8	14
5	5/16	7.9	1/2-20	12	15	16	20	10	15	14	20
6	3/8	9.5	9/16-18	21	24	29	33	15	20	20	27
8	1/2	12.7	3/4-18	35	40	47	54	25	30	34	41
10	5/8	15.9	7/8-14	53	53	72	79	35	40	47	54
12	3/4	19.1	1-1/16-12	77	82	104	111	60	70	81	95
14	7/8	22.2	1-3/16-12	90	100	122	136	70	80	95	109
16	1	25.4	1-5/16-12	110	120	149	163	80	90	108	122
20	1-1/4	31.8	1-5/8-12	140	150	190	204	95	115	129	158
24	1-1/2	38.1	1-7/8-12	160	175	217	237	120	140	163	190
32	2	50.8	2-1/2-12	225	240	305	325	250	300	339	407

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

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

clean solvent or Loctite cleaner and apply hydraulic sealant Loctite no. 569 to the 37° flare and the threads.

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

### MODEL AND SERIAL NUMBER LOCATION

The skid-steer loader model and serial number tag is located on the inside on the left boom support post at 1.

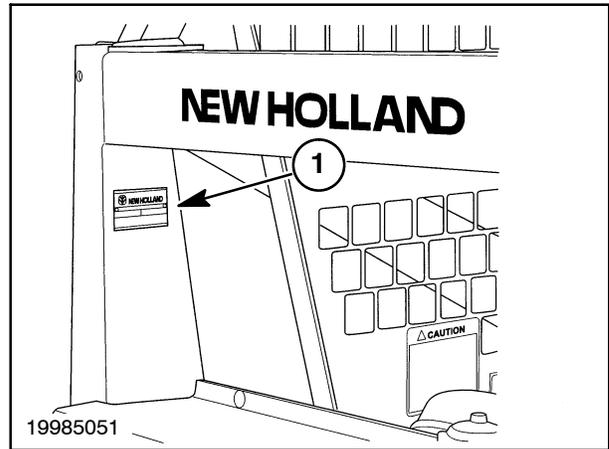


Figure 1-2

L250 Engines - B43G and P218 gasoline engine model and serial number is located at 1, on the engine shroud at the flywheel end of engine.

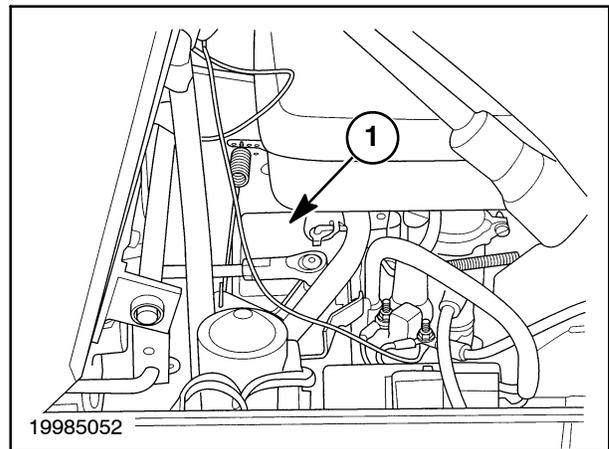


Figure 1-3

L255 Engine - E673 diesel engine model and serial is located on the top, flat surface of the injection pump at 1.

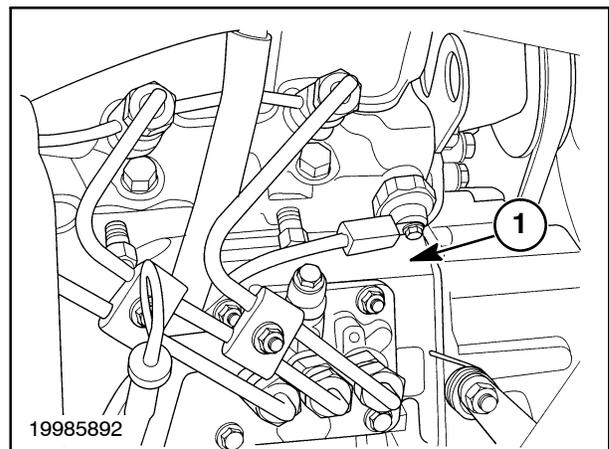


Figure 1-4

**PROPERLY SUPPORT A RAISED MACHINE**

If servicing, neutral adjustment, final drive adjustment or repairs, require the machine to be raised with all four wheels off the ground, securely support the machine with adequate jack stands or blocks as shown.

Support the machine at 1, to the front of the final drive cases and to the rear at 2, making sure the supports are on the flat area of the final drive cases. Make sure the supports do not contact the wheels or tires.

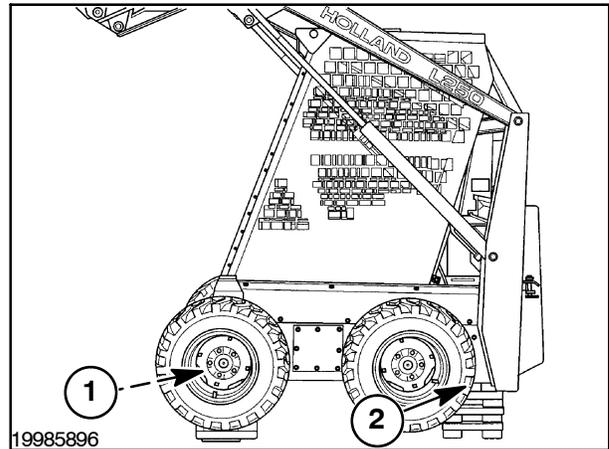


Figure 1-5

**PROPERLY SUPPORT BOOM ON BOOM LOCKPINS**

Before servicing the machine or any of its attached equipment, be sure that the attachments are lowered to the ground or the boom arms are supported by the boom lockpins, 1.

If boom is to be raised on boom lock pins, remove any attachment. Opening a hydraulic line could cause a mounted attachment to dump over unexpectedly.



**DANGER: NEVER WORK BENEATH A LOADER OR BOOM WHEN IT IS HELD UP ONLY BY THE HYDRAULIC SYSTEM. A BROKEN HYDRAULIC LINE COULD CAUSE THE BOOM TO DESCEND RAPIDLY.**

**DANGER: ALWAYS ACTUATE THE BOOM LOCK BEFORE LEAVING A MACHINE WITH THE BOOM UP AND/OR WHEN SERVICING OR REPAIRING THE UNIT WITH THE BOOM UP. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH.**

**PROCEDURE:**

1. RAISE THE BOOM, EXTEND THE BOOM LOCK PINS, 1, AND LOWER THE BOOM ON THE BOOM LOCKPINS.
2. AFTER STOPPING THE ENGINE AND BEFORE UNBUCKLING THE SEAT BELT AND DISMOUNTING FROM THE LOADER, TURN "ON" THE IGNITION SWITCH.
3. PUSH BOTH THE BOOM AND BUCKET PEDALS TO RELIEVE ALL HYDRAULIC PRESSURE IN BOTH CIRCUITS.
4. TURN "OFF" THE IGNITION SWITCH.
5. SET THE PARKING BRAKE.

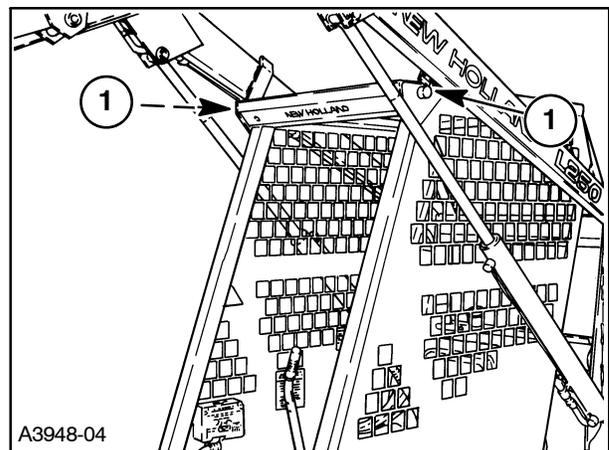


Figure 1-6

## LOADING AND TIE-DOWN

When loading a loader onto a truck or trailer, keep the boom and/or attachment down as far as possible.

Before exiting the loader, set the parking brake and shut off the engine.

The recommended tie-down is shown in Figures 1-7, 1-8, and 1-9. Figure 1-8 shows the tie-down chain across the bottom bucket pivots. Figure 1-9 shows the tie-down chain through the eye at the rear of the loader frame.

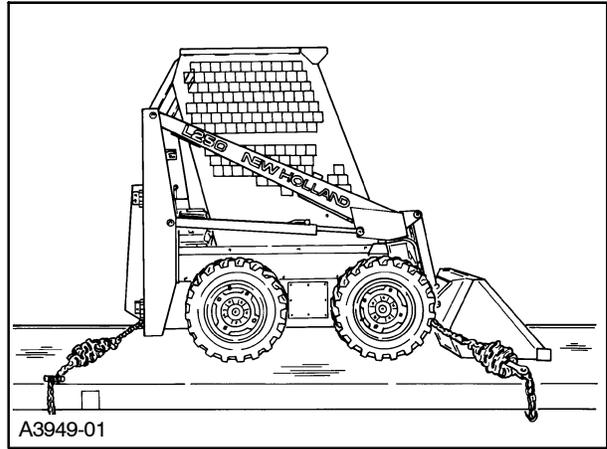


Figure 1-7

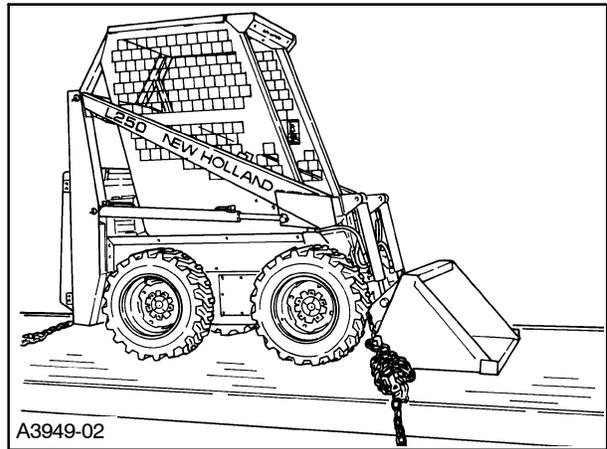


Figure 1-8

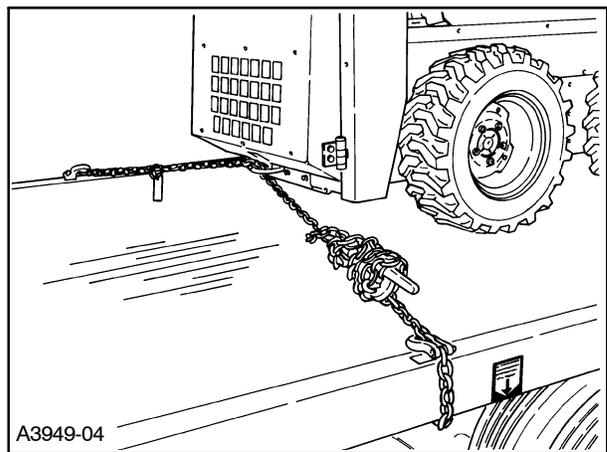
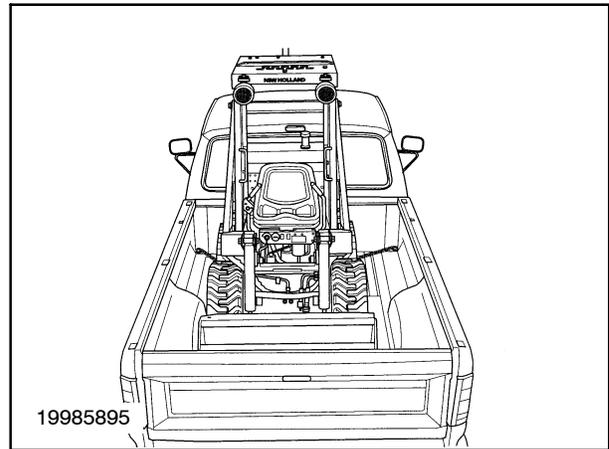


Figure 1-9

The L250/L255 Skid-steer loaders equipped with narrow tires and bucket can be loaded into a pick-up truck. The pick-up truck must be capable of handling the weight of the loader and bucket. The truck must have provisions to properly secure the loader in the truck to prevent loader movement.



**Figure 1-10**

## OPTIONAL EQUIPMENT

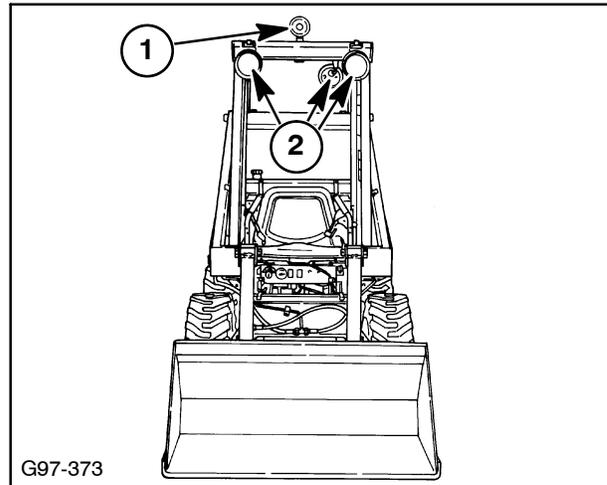
### WARNING LIGHT KIT

This kit consists of an amber lamp, 1, and necessary components to provide a flashing light as may be required for safety. (See Section 3.)

### LIGHT KIT

This kit consists of two headlights, one rear operating light, rear red taillight, and the required brackets, hardware and wiring for installation, 2.

The rear work light (clear) and rear taillight (red) can be operated together and/or the rear work light can be turned "Off" for road travel. The rear work light switch is located on the rear light housing. (See Section 3.)

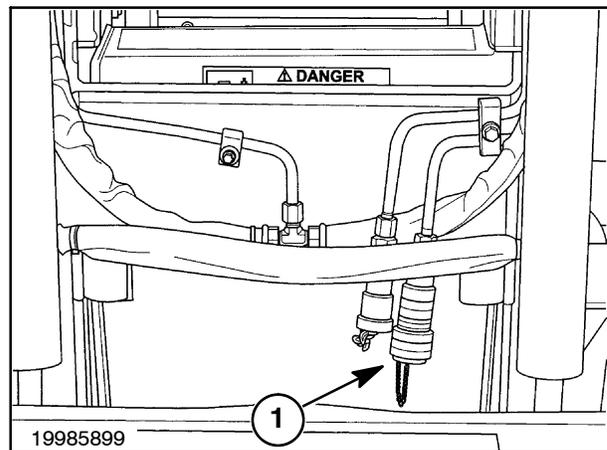


G97-373

Figure 1-11

### AUXILIARY BOOM HYDRAULIC KIT

The auxiliary boom hydraulic kit provides hydraulic oil to the front of the boom for hydraulically operated attachments at 1.

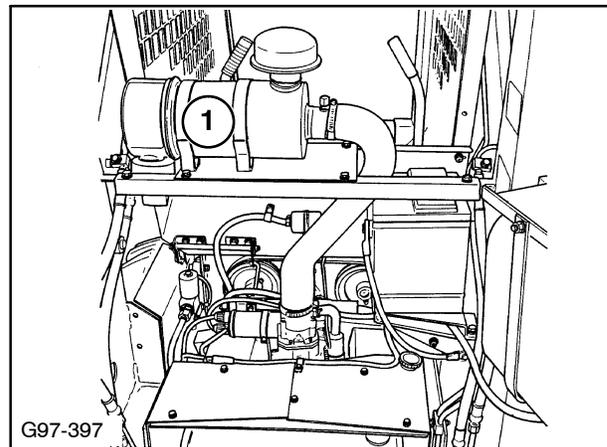


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Figure 1-12

### HEAVY-DUTY AIR CLEANER KIT - L250 GASOLINE ENGINE ONLY

A heavy-duty air cleaner kit is offered for those loaders operating primarily in excessively dusty conditions. The air cleaner, 1, is mounted above the engine and provides additional filtration capacity. (See Section 2.)



G97-397

Figure 1-13

### ENGINE BLOCK HEATER KIT - L255 DIESEL ENGINE ONLY

This block heater kit can be installed on the diesel engine to aid starting in colder climates.

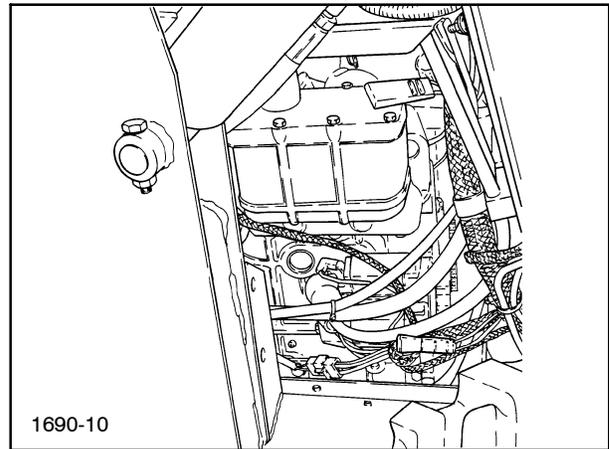


Figure 1-14

### #189396 SLOW-MOVING VEHICLE EMBLEM

The slow-moving vehicle (SMV) emblem is available from New Holland parts to be installed on the skid-steer loader when the unit will be on the road and where/when it is required.

The SMV emblem can be attached to the rear engine door as shown at 1 (L255 shown).

*IMPORTANT: Place the SMV emblem decal over the solid area of door. DO NOT place over the slots in rear door. This will restrict air flow and may cause an engine overheat condition.*

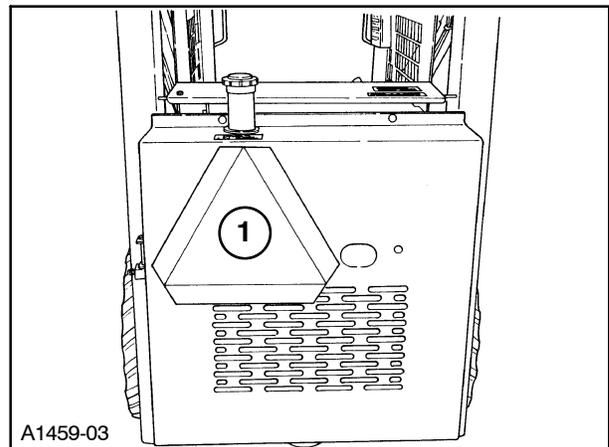


Figure 1-15

### TIRES

The skid-steer loader can be equipped with the following tires and correct tire pressures.

- 5.70 x 12 . . . . . 3.5 bar (50 PSI)
- 23 x 850 - 12 . . . . . 2.0 bar (35 PSI)

*ATTENTION: The loader will be hard to turn and the tires will wear faster if the correct tire pressure is not maintained.*

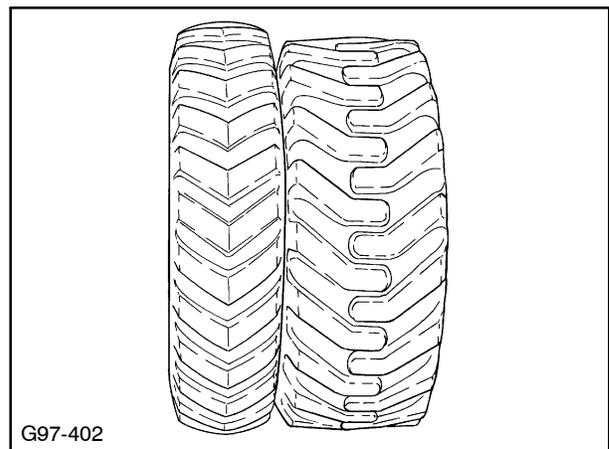
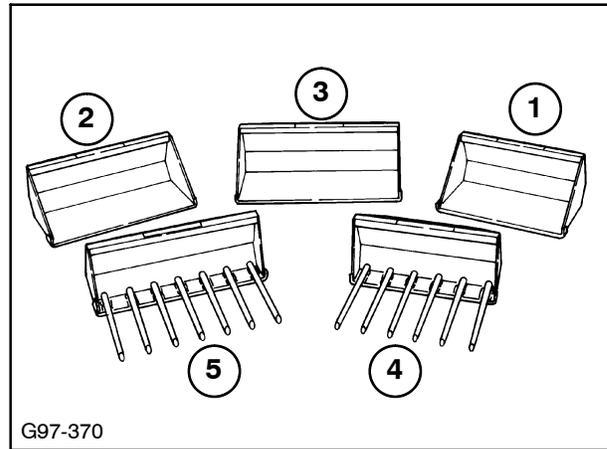


Figure 1-16

**BUCKETS AND UTILITY FORKS**

- 1 36" (0.91 m) bucket (800854)  
(4.57 ft.<sup>3</sup> [0.13 m<sup>3</sup>])  
The 36" (0.91 m) bucket includes a 0.375" (9.5 mm) thick cutting blade.
- 2 42" (1.06 m) bucket (800855)  
(5.33 ft.<sup>3</sup> [0.15 m<sup>3</sup>])  
The 42" (1.06 m) utility bucket includes a cutting blade and has greater capacity in an average material handling operation.
- 3 47" (1.19 m) utility bucket (800856)  
(5.97 ft.<sup>3</sup> [0.17 m<sup>3</sup>])  
A wider, medium-duty bucket for operations where narrow aisles or doorways are not a problem.
- 4 36" utility fork (800857)  
The utility fork includes six heavy-duty tines for handling bulky, hard-to-work-with materials.
- 5 42" utility fork (800858)  
The utility fork includes seven heavy-duty tines for handling bulky, hard-to-work-with materials.

**Figure 1-17**

## HYDRAULIC SYSTEM COMPATIBILITY

There are six general questions that must be answered before adapting attachments that require hydraulic oil power.

- 1. What is the hydraulic pressure requirement, minimum and maximum? Are they higher than the maximum pressure of the model?**

Model	Maximum Pressure
L250/L255	109 bar (1600 PSI)

- 2. What is the hydraulic oil flow requirement? Is it more than the highest total flow rate of the skid-steer loader model?**

Model	Standard Hydraulics	High Flow Hydraulics
L250	30.2 l/min (8 GPM) @3600 RPM	N/A
L255	30.2 l/min (8 GPM) @3600 RPM	N/A

- 3. Will the attachment accept oil flow in both directions?**

If "YES", nothing is required.

If "NO", install a check valve or cross into the attachment return line to prevent reverse oil flow to the attachment.

Examples: Backhoes and trees spades with a separate control valve do not accept oil flow in both directions.

- 4. Must the attachment "Free Wheel" to a stop?**

If "YES", a crossover relief connection must be installed on the attachment side to allow the attachment to free wheel to a stop after the skid-steer loader hydraulics is turned off.

If "NO", nothing is required.

Example: Snow blowers.

- 5. Will the attachment accept hydraulic system backpressure?**

If "YES", nothing is required.

If "NO", the attachment will not function properly on a New Holland skid-steer loader. Normal backpressure for New Holland skid-steer loaders is between 200 to 250 PSI.

Examples: Post drivers; some breakers; and some hand held hydraulic tools do not accept system backpressure.

If all the skid-steer loader oil flow is not required to operate an attachment (e.g., Shaver Post Driver), a flow divider can be installed into the hydraulic oil circuit on the attachment. The flow divider sends the required oil flow to the attachment and the remainder back to the normal skid-steer loader hydraulic circuits.

- 6. Does the attachment have a separate case drain oil line?**

If "NO", nothing is required.

If "YES", install a separate case drain line to return the attachment case drain oil directly to the hydraulic oil reservoir.

Example: Cold planners have a separate case drain oil line.

**NOTE: Most attachment case drains will not accept backpressure and must drain directly into the reservoir.**

- 7. Does the attachment require a circuit relief in the bucket circuit?**

If "NO", nothing is required.

If "YES", install a bucket circuit relief valve on front of the control valve, in the bucket circuit.

Example: Some mini-backhoes attach like a bucket, and require a bucket circuit relief.

**CAB / ROPS INSPECTION**

1. Inspect the ROPS front posts, 1, and roof cross support, 2, for any structural damage, cracks, or distortion.

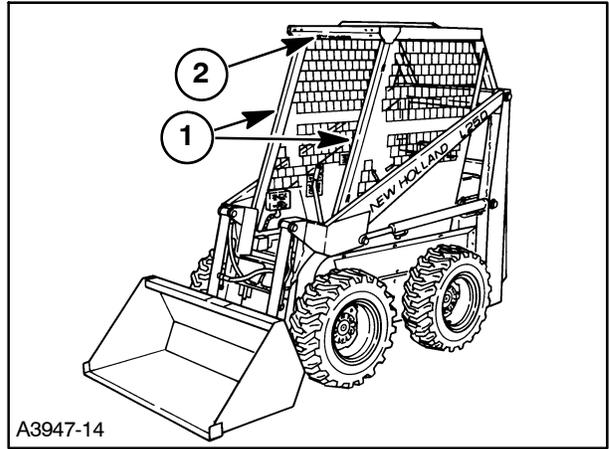


Figure 1-18

2. Inspect the ROPS rear cab posts, 1, and roof beams, 2, for any structural damage.

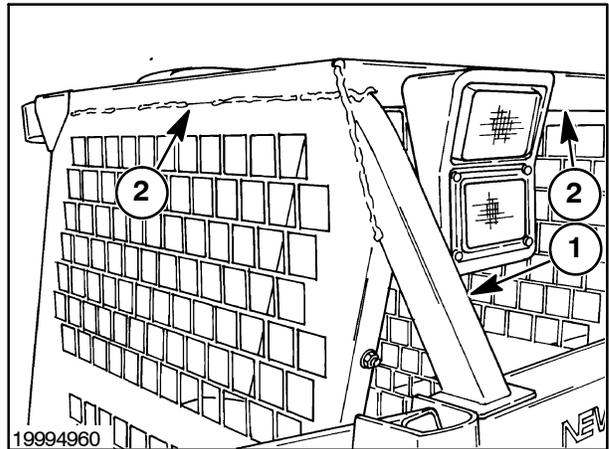


Figure 1-19

**CAB / ROPS REMOVAL**

1. Remove three top left side fender retaining screws, 1.

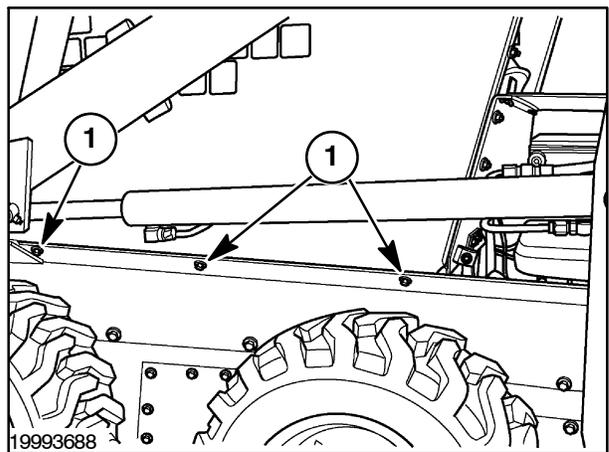


Figure 1-20

2. Remove three top right side fender retaining screws, 1.

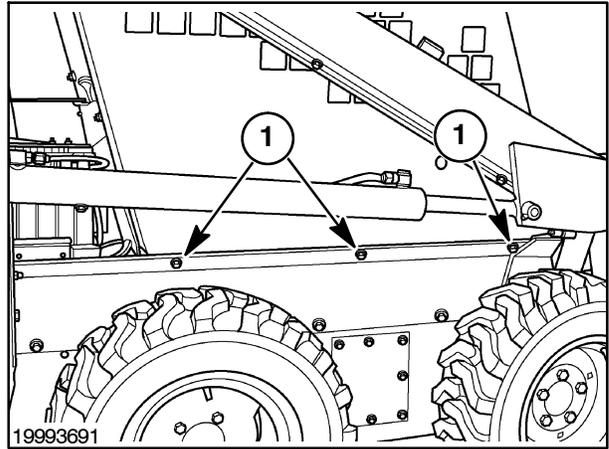


Figure 1-21

3. Disconnect the wire harness from the control module, 1.
4. Remove the warning light(s) from the frame and disconnect the harness wires, 2.
5. If equipped with a light kit, disconnect the wire harness at 4.
6. Remove the two frame screws, 5, at the rear of the cab.

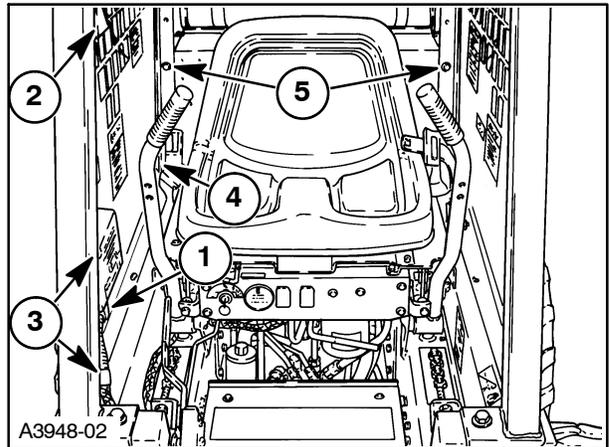


Figure 1-22

7. Heat and cut the rear tamper-proof retaining bolts, 1, to remove from the ROPS and frame.
8. Remove the 1/2" bolts, 2, from the inside of the frame.

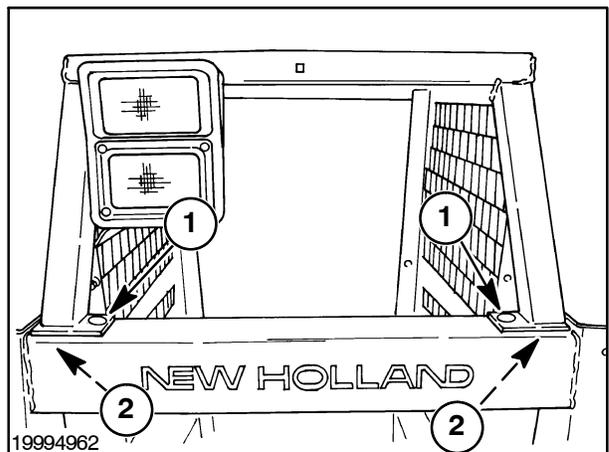


Figure 1-23

9. Remove the front retaining bolts, 1, from the front corners of the ROPS.
10. With a suitable overhead lifting device, raise the ROPS off the frame.

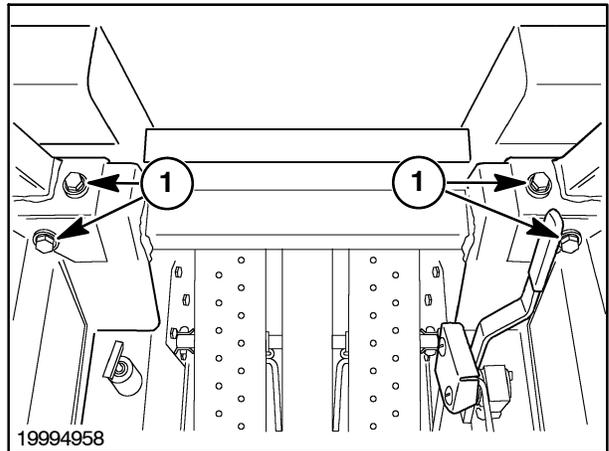


Figure 1-24

### CAB / ROPS INSTALLATION

1. Lower the ROPS onto the frame.
2. Install the front 1/2" bolts, 1, into the ROPS and frame, and tighten to 85 N·m (65 ft lbs).

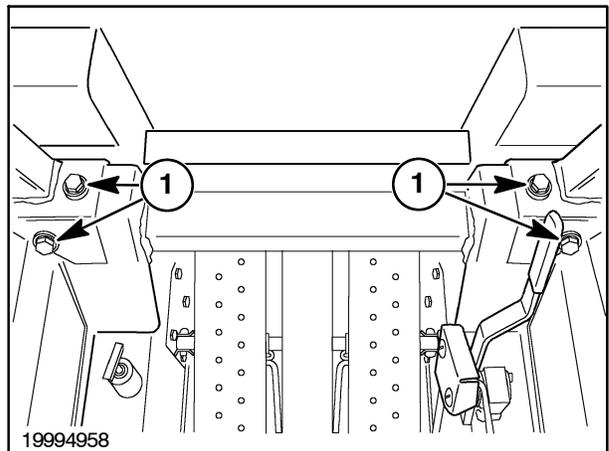


Figure 1-25

3. Obtain two new tamper-proof retaining bolts. The bolt head, 1, snaps off at about 80 N·m (60 ft lbs). Be careful not to damage the bolt prior to installation.

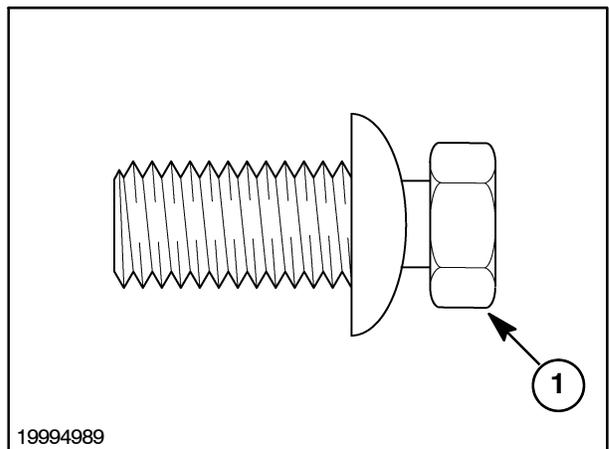


Figure 1-26