

135TA / 137 / 153

Skid Steer Loader



Owner's and Operator's Manual

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2. CONTROLS

2.4 SEAT BAR

For operator protection the loader is equipped with a seat bar.

The loader must be started with the operator seated in the loader and the seat bar in the up position. To raise the seat bar, lift up on the bar (Fig. 2.3A). In the up position, the seat bar activates the parking brake.

When down (Fig. 2.3B), the seat bar releases the park brake and the hydraulic controls of the lift and tilt circuits.

Before exiting the loader always check the controls by cycling them to ensure that they are in the neutral position.

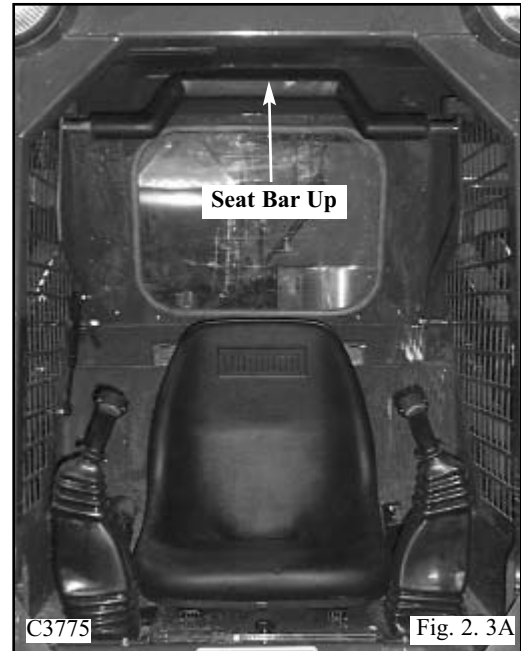


Fig. 2. 3A

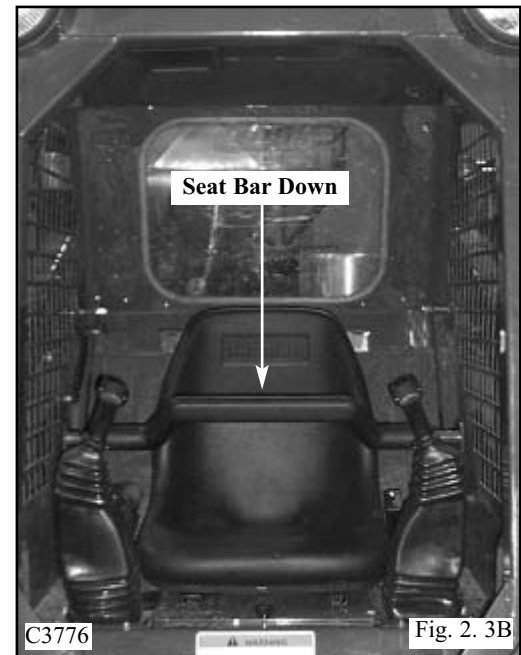



Fig. 2. 3B

 WARNING	<p>To avoid personal injury, lower the lift arms, shut off the engine, raise the seat bar and cycle the hydraulics to ensure they are locked. Then, unlatch the seat belt and exit the loader. Do not enter or exit with the engine running unless as specified in this manual or under specific service and backhoe operating procedures.</p>
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3. OPERATION

3.4 DIGGING WITH A BUCKET

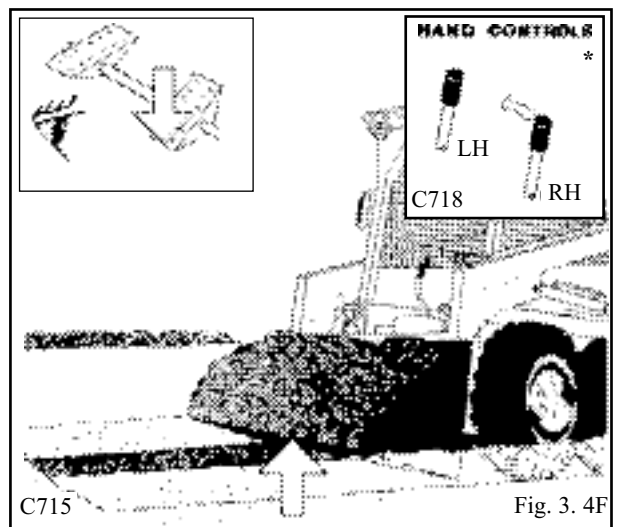
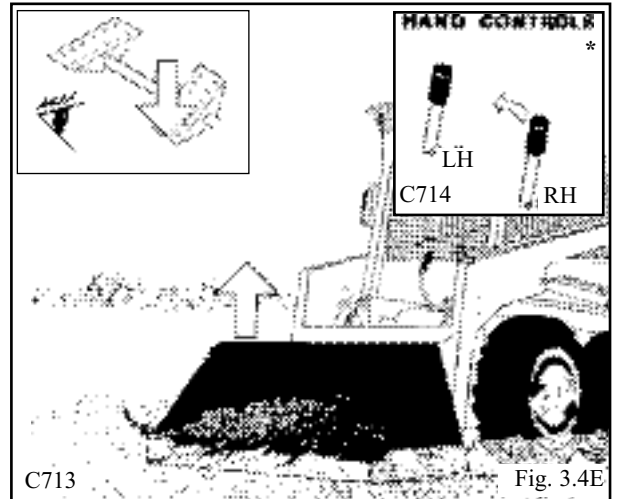
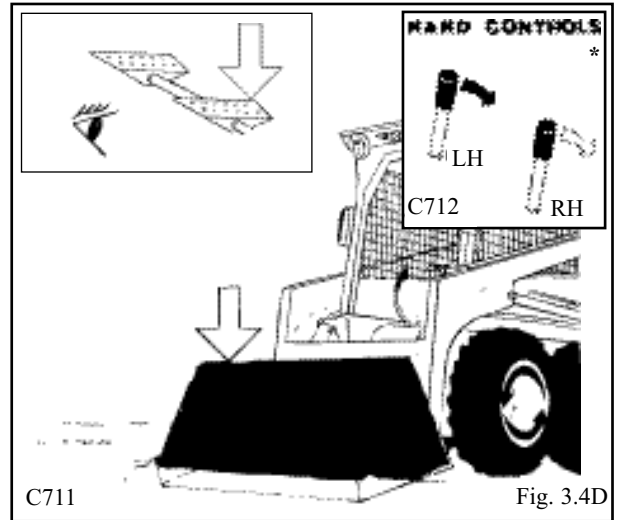
Push on the toe of the lift arm pedal and lower the lift arms completely down. Push on the toe of the bucket pedal and place the cutting edge of the bucket on the ground (Fig. 3.4D). Drive the loader forward at a slow rate and continue to tilt the bucket down until it enters the ground.


Push down on the heel of the bucket pedal (Fig. 3.4E) to increase traction and keep an even digging depth.


Continue to drive forward until the bucket is full. When digging in hard ground, it is easier to raise and lower the bucket cutting edge with the tilt pedal while slowly driving forward. When the bucket is full, push down on the heel of the bucket pedal (Fig. 3.4F) to raise the tip of the bucket.

For hand control units, move the L.H. control lever towards you to lower the lift arms completely down. Move the R.H. control lever away from you and place the cutting edge of the bucket on the ground (Fig. 3.4D). Drive the loader forward at a slow rate and continue to tilt the bucket down until it enters the ground. Move the R.H. control lever towards you (Fig. 3.4E) to increase traction and keep an even digging depth. Continue to drive forward until the bucket is full. When the bucket is full, move the R.H. control lever towards you (Fig. 3.4F) to raise the tip of the bucket.

* Hand controls not available on all machines.



	WARNING	To prevent personal injury, ensure that the bucket with the proper rated capacity is being used for the job you are doing.
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	WARNING	To avoid personal injury: When starting or operating loader in an enclosed area make sure there is enough ventilation. Exhaust fumes can kill.
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	WARNING	To prevent personal injury always carry the load low.
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4. MAINTENANCE

4.2 SERVICE ACCESS

1. Lift Arm Support

For safety while performing regular service or maintenance work, the loader is equipped with lift arm support pins. The lift arm support pins when extended prevent the lift arms from dropping if hydraulic pressure is relieved or the hydraulic controls are accidentally cycled.

To operate the lift arm support, first remove any bucket or attachment from the quick-tach; raise the lift arms to full height. Raise the lift arm support handle (Fig. 4.2A) up and push out toward lift arms to extend the lift arm supports. (Fig. 4.2B) Slowly lower the lift arms down on to the pins. To retract the lift arm supports, lift the lift arms off of the pins before retracting pins.

IMPORTANT

Fully retract lift support pins before raising or lowering lift arms.



WARNING

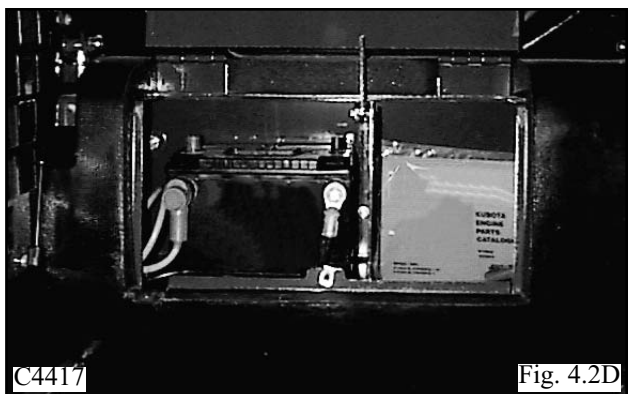
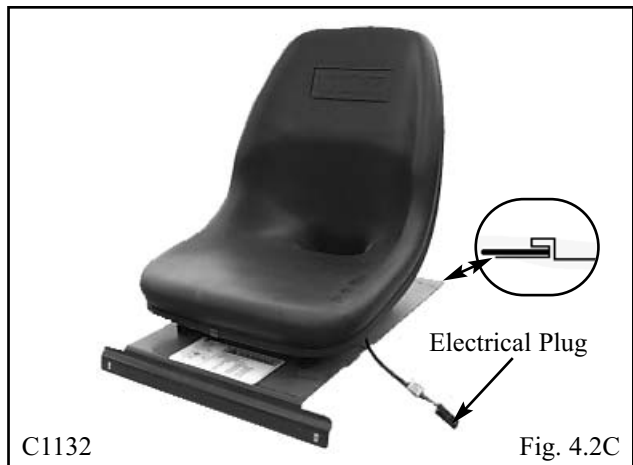
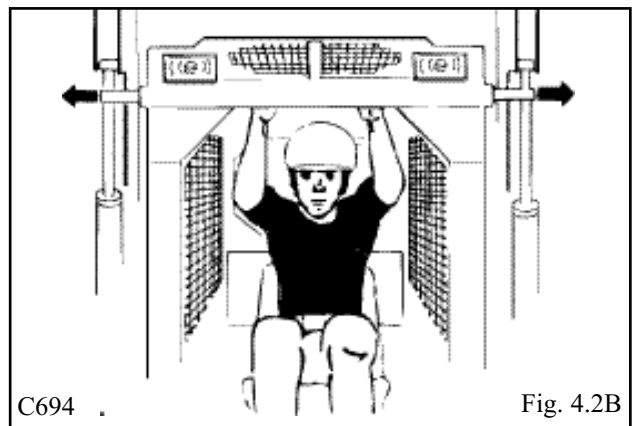
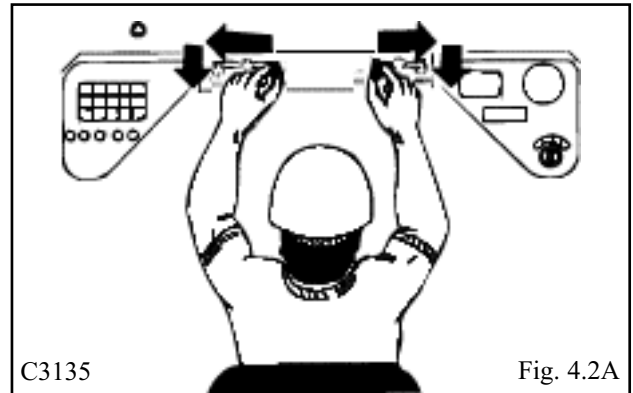
To avoid personal injury: Do not leave lift arms up unless the lift arm supports are engaged.

2. Seat Removal

The seat assembly can be removed to provide access to the controls, hydraulic and hydrostatic components. To remove the seat assembly, remove the fasteners located at the front of the seat. DISCONNECT ELECTRICAL PLUG! Lift the seat assembly out of the machine. When installing the seat, be sure the seat plate is locked in place at the rear (Fig. 4.2C).

3. Battery Access

The battery is located in a compartment found behind the operators seat (Fig. 4.2D). Remove the seat and remove the bolt holding the battery cover in place. The battery compartment is hinged with a prop rod to hold open.



4. MAINTENANCE

4.8 ENGINE MAINTENANCE

1. Engine Specifications

	153	135TA/137
Make	Kubota.....	Kubota
Model.....	V2203E.....	V1903E
No. of Cyls	4.....	4
Horsepower (Gross)	49.....	42
Power (ISO9249 Net Power)	34.3 kW.....	29kW
Power CE (ISO9249 Net Power)	33.8 kW.....	28.9kW
High Idle.....	2800.....	2800
High Idle CE	2600.....	2600
Max. Torque.....	115 ft.lbs. (15.9kg/m@1600).....	89.1 ft.lbs. (12.3 kg/m @ 1600)
Displacement.....	134 in. ³ (2197 c.c.).....	113.5 in. ³ (1861 c.c.)
Engine Oil	8.5 qts. (8 L).....	8.5 qts. (8 L)
Firing Order.....	1 - 3 - 4 - 2.....	1 - 3 - 4 - 2
Alternator.....	40 A.....	40 A
Oil Check.....	Daily.....	Daily
Oil Change.....	150 hrs.....	150 hrs.
Filter Change.....	150 hrs.....	150 hrs.

2. Oil Level Check

Check the oil before engine start up. If the engine has been running let it cool for at least 5 minutes.

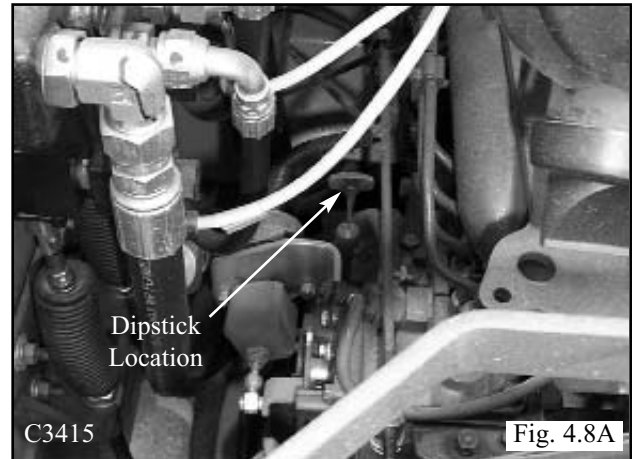
To check the oil level, stop the engine with the loader on level ground, open the rear door and remove the dipstick (Fig. 4.8A).

Keep the oil level between the full and low mark on the dipstick. Do not fill above the full mark.

3. Engine Oil and Filter Replacement

Operate the engine until warm, approximately 5 minutes. Stop the engine. Remove the oil drain plug located at the bottom of the oil pan. Remove the oil filter (Fig. 4.8B). Clean the filter housing surface. Put clean oil on the seal of the new filter and install the filter hand tight.

Replace the oil drain plug. Remove the filler cap and add 10W30 API classification CF engine oil. Start the engine and run for 5 minutes. Stop the engine and check for leaks at the filter. Recheck the oil level and add oil until the level is at the top mark on the dipstick.

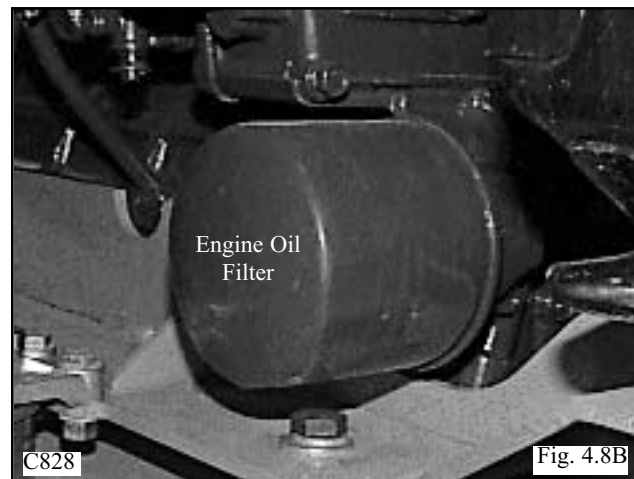


WARNING

To avoid personal injury: Stop, Cool and Clean the engine of flammable materials before servicing. Never service or adjust machine with engine running.

IMPORTANT

Thomas recommends that you abide by all applicable environmental regulations when disposing of oil.



4. MAINTENANCE

3. Final Drive Transmission

Problem	Cause	Remedy
Final drive transmission noisy	No lubricating oil	Check and bring oil to the proper level. Use 10W30 API SH engine oil.
	Axles have too much end play	Preload axle bearings removing all end play.
	Parking brake damaged or out of adjustment	Inspect and adjust or replace damaged parts.
	Chain loose	Replace the chain.

4. Control Levers

Problem	Cause	Remedy	
Control levers will not center	Linkage out of adjustment	Adjust, check for wear at rod ends, loose counter nuts.	
	Linkage disconnected	Reconnect, check for wear at rod ends, loose counter nuts.	
	Centering spring broken	Replace	
	Linkage binding	Binding of spring bushing in spring box. Align spring box with linkage.	
		Control levers binding with safety shields or sound insulation. Adjust.	
		Control lever bearings binding in lever assembly. Inspect, replace or clean as required.	
Machine operates erratically	Control lever linkage loose	Inspect linkage for wear at rod ends, loose counter nuts.	
	Bolt in pintle lever worn or broken	Replace bolt. Inspect pintle lever for wear at bolt hole. Ensure bolt clamping lever to pump shaft is tight.	
		See also troubleshooting guide for hydrostatic system.	
Machine will not travel in a straight line	Linkage binding	Adjust.	
	Control lever travel out of adjustment	Adjust.	
Control levers do not operate smoothly	Internal pump and/or motor linkage	See troubleshooting hydrostatic system.	
	Control lever linkages out of adjustment.	Adjust control lever linkages.	
	Control lever linkages need lubrication.	Lubricate with a silicone based lubricant.	

5. Electrical

Problem	Cause	Remedy
Engine will not crank over	Battery failure	Check battery - charge or replace.
	Battery cable failure	Check for loose or corroded connectors. Tighten and clean as required. Use di-electric grease to prevent corrosion.
		Check continuity of cables and replace.
	Starter failure	Repair or replace.

5. SPECIFICATIONS

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- 5. 1 Loader Specifications
- 5. 2 Torque Specifications
- 5. 3 Decals

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