

Skid Steer Angle Broom Operation and Maintenance Manual



preface

This 《Operation and Maintenance Manual 》 has been prepared to provide the owner/operator of the Angle Sweeper with instructions for the safe operation and maintenance of the Angle Sweeper. Read and understand the contents of this 《Operation and Maintenance Manual 》 before using the Angle Sweeper. If you encounter any problems, please consult your skid steer dealer.

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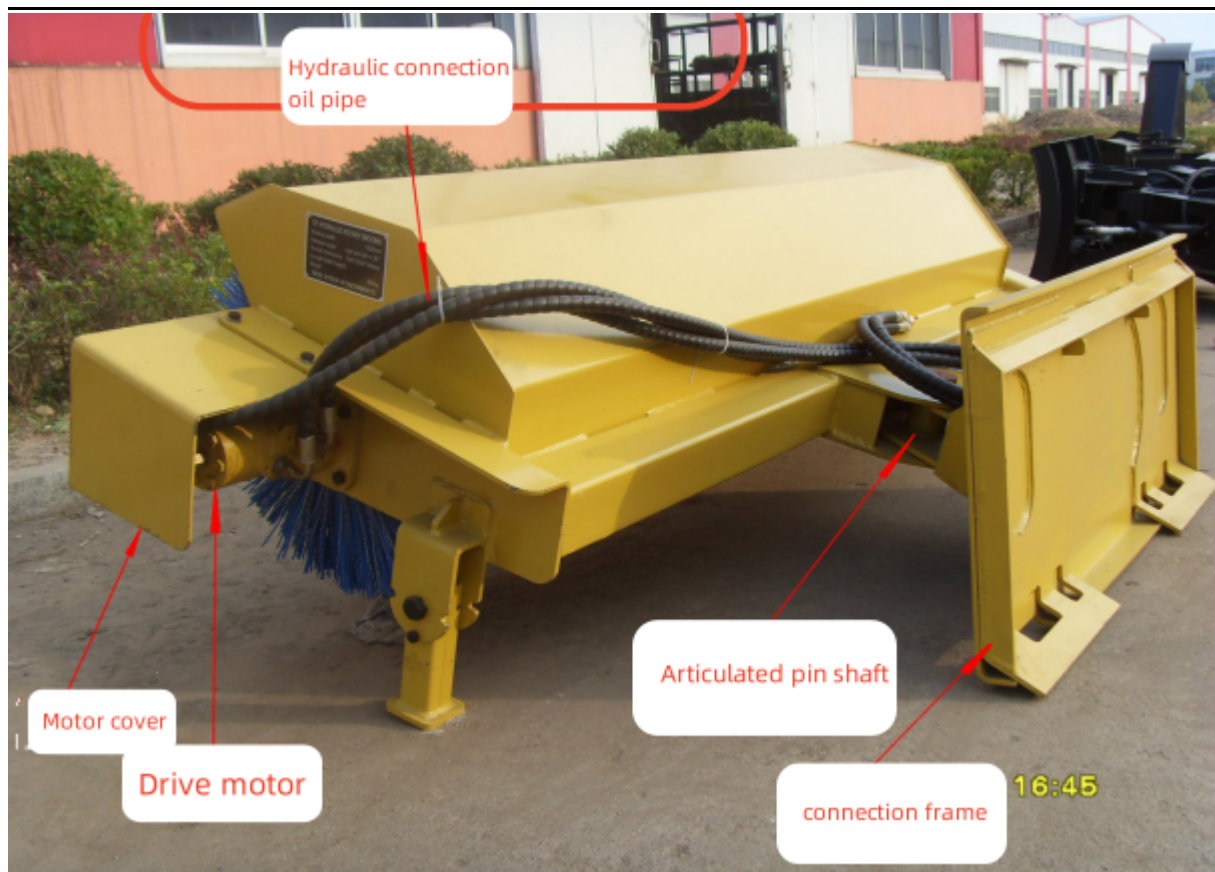
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Equipment parameters

Norm	Unit	60''	84''
Work width	mm	1524	2100
Brush diameter	mm	670	810
Corner	°	30	25
Work pressure	MPa	16	16-21
Work flow	L/min	50-80	40-90

Component identification and mechanical marking (labeling)





Instructions for safe use

Safe operation requires qualified operators*

A qualified operator must do the following:

- Understanding written instructions, rules and regulations
- Written instructions including delivery reports, operation and maintenance manuals, operator's manuals, safety manuals and machinery markings (**labeling**).
- Check the rules and regulations for your location. Rules may include the owner's job safety requirements. Regulations may apply to local driving requirements or be appropriate for the use of low-speed traffic (SMV) signs. Regulations may identify a hazardous condition, such as a utility line.
- Accept practical operation training
- Operator training must consist of demonstrations and verbal explanations. This training

is given by the dealer prior to delivery of the product.

- The novice operator must start the machine and use all controls in an area free of bystanders until the machine and attachments can be operated safely under all conditions in the work area. Please always fasten your seat belt before operating the loader.
- Dealers offer loader operator training courses. The training courses provide information on safe and efficient equipment operation. Dealers also offer loader safety videotapes.
- Dealers provide training courses on safe maintenance. Training courses provide information on safe and proper maintenance procedures.

● **Understanding of working conditions**

- Know the weight of the material to be processed. Avoid exceeding the rated working capacity of the machine. Dense material will be heavier than the same volume but less dense material. If handling dense material, reduce the load.
- The operator must be aware of the various prohibited uses or work areas, e.g. he needs to be aware of the conditions of slopes with excessive gradients.
- Find out where various underground pipes are located and call your local utility department.
- Wear tight-fitting clothing. Always wear safety glasses when performing maintenance or servicing. Safety glasses, hearing protection or special-purpose equipment are required when performing certain work. For safety equipment, consult your local dealer.

Safety Precautions

Under normal operating conditions, machinery and certain fittings have components that are subjected to high temperatures. The high temperatures come primarily from the engine and exhaust system. If vandalized or improperly maintained, the electrical system can be a source of arcing or sparking.

Flammable materials (leaves, straw, etc.) must be removed regularly. If flammable materials are allowed to accumulate, they can lead to a fire hazard. Remove flammable materials regularly to avoid such accumulation. Flammable materials in the engine compartment are a potential fire hazard.

The spark quencher exhaust system (if fitted) is designed to control the emission of hot particulate matter from the exhaust system, but the silencer and exhaust gases are still hot.

- Do not use the machine in environments where exhaust gases, arcs, sparks or burning elements can come into contact with flammable materials, explosive dusts or gases.
- The operator's compartment, the engine and the cooling system must be inspected daily and, if necessary, cleaned to prevent fire and overheating.
- Check all wires and connectors for damage. Keep battery terminals clean and connections tight. Repair or replace any damaged parts.
- Check fuel and hydraulic lines, hoses and couplings for damage and leaks. Do not use an open flame or bare skin to check for leaks. Tighten or replace any parts that appear to be leaking. Always clean fluid spills. Do not use petrol or diesel to clean parts. Use commercial non-flammable solvents.
- Do not use ether or starting fuel on any engine that has an electric plug. These starting aids will cause an explosion and injury to you or bystanders.
- Always clean the machine, disconnect the battery, and disconnect the wires from the

electronic control before welding. Cover the rubber hose, battery, and all other combustible parts. Place a fire extinguisher near the machine while welding. Ensure good ventilation when grinding and welding painted parts. Wear a dust mask when grinding painted parts. Toxic dust or gas may be generated.

- Switch off the engine and allow it to cool down before adding fuel. Smoking is strictly prohibited!
- Connect the battery and perform a jumper start according to the procedures in the 《Operation and Maintenance Manual》 .
- Clean the spark quencher silencer according to the procedures in the 《 Operation and Maintenance Manual》 (If assembly) .
- Know where to place fire extinguishers and first aid kits and how to use them. Fire extinguishers can be obtained from dealers.

***For qualified operators, no drugs or alcoholic beverages that reduce their alertness or coordination may be taken while working. Operators who are taking prescription medication must seek medical advice to determine if they can safely operate the machine.**

Inspection items before using the equipment:

- Check that the joystick is in the locked position and that the wedge locking pin is fully engaged.
- **Ensure that all controls (joystick, foot switch, mechanical and advanced manual controls) are in the "neutral" position before starting the machine.**
- Operate the device only from the operator seat.
- Always operate the equipment with your feet on the pedals (or kickstand), fasten and

secure the seat belt and lower the seat post.

- When learning to operate equipment, operate the machine at a slow speed in an area free of bystanders.
- When operating the equipment, no one is allowed to stay in the work area (within 3 m).
- Always lower the unit, engage the brake gear, and switch off the engine before leaving the operator's seat.
- It is strictly prohibited to adjust or repair the equipment while the engine is running.
- Certain equipment must not be operated in the lifting position. Work only on the surface on which the machine rests.

Equipment installation and disassembly

The loader must be equipped with front auxiliary hydraulics.



Installation equipment

Enter the loader. Fasten the seat belt and lower the seat post, then start the engine and release the parking brake.

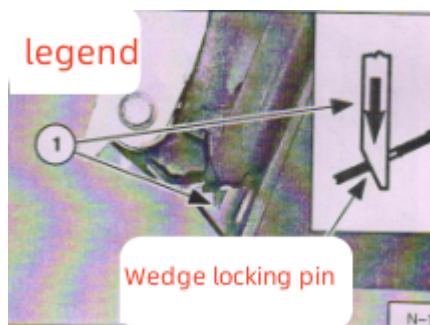
Manoeuvre the handle so that the quick-change hanger wedge is raised upwards until the wedge locking pin is fully raised.



Drive the loader forward until the upper edge of the quick change hanger is completely

under the upper flange of the quick change device

until the upper edge of the quick-change hanger is completely under the upper flange of the quick-change mechanism.



Tilt the quick-change hanger back until the unit is slightly off the ground Press and hold the quick-change hanger wedge locking pin down and up until the wedge locking pin is completely through the mounting bracket hole.

! warning

The wedge locking pin must pass through the hole in the fitting. The control lever must be fully down in place and locked.

Failure to secure the wedge can dislodge the fitting and cause injury.

Hydraulic quick-change coupling

New parts and new loaders are shipped with hydraulic quick-change couplings.

. If installed on a loader equipped with a straight-through connector, the



then the connectors on the loader or equipment must be changed to make be adapted to each other. For parts information, consult your loader and parts dealer for parts information.

NOTE: Make sure the quick connectors are fully engaged. If the quick connector does not fully engage, check that the size and type of connector match. Clean the quick connectors thoroughly before making connections. Dust can quickly damage the system.

Remove dust or debris from the surfaces of the convex and concave connectors and the outer diameter of the convex connector.

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Visually inspect connectors for

corrosion, cracks, damage, or excessive wear. If one of the above conditions, the connector must be loosely replaced.

Install the convex connector into the concave connector. When the ball detachment sleeve slides forward onto the concave connector, it indicates that the connection is fully in place.

Turn the sleeve so that the locking pins are not aligned. This will prevent accidental disconnection.

Disconnect the hydraulic quick-change coupling:

Turn the ball split sleeve so that the slot aligns with the pin in the concave connector. Hold the convex connector. Retract the sleeve on the concave connector until the connector is



disconnected.

Disassembly

1. Disconnect the auxiliary hose.
2. Press up to lift the wedge latch up switch until the wedge is fully raised
3. Get into the loader, fasten your seat belt, lower the seat post, and start the engine.
4. Tilt the quick-change hitch forward and back up the vehicle.

NOTE: In muddy conditions or to prevent the unit from freezing to the ground, place the unit on boards or blocks before removing it from the loader.

Operation

1. After the operator is seated in the operator's seat of the loader, fasten the seat belt and lower the seat lever, then start the engine.
2. Press the hanger handle of the main unit to lock the hanger pin to the locking pin hole of the angled sweeper support plate.
3. Referring to the main unit's operating manual, connect the quick coupling at the end of the angled sweeper's working oil hose to the main unit's attachment hose port.
4. The angled sweeper has been correctly mechanically and hydraulically connected to the main unit and is ready for normal operation.



5. Schematic working conditions in which the right and left angles of the angled sweeper can be adjusted to deflect the operation to the rightmost side.



To prevent the loader from sliding during sudden stops or when travelling up or down a slope, follow these steps to fasten the

Loader is fastened to the vehicle:

- Lower the unit to the floor.
- Ensure that it is fully lowered.
- Switch off the engine.
- Tie the chain ropes in the tie-down positions in front of and behind the loader.
- Fasten the chain to the vehicle.
- Use chain binders to prevent the loader from moving during transport.

Maintenance

Troubleshooting

Fault description	Fault reason	Fault rectification
Excessive motor noise (under load)	Vibration; loose bolts	Checking torque
External oil leakage	Excessive pressure on motor housing	Check motor housing drain line
	Defective assembly	Check the housing drain line for clogs.
	O-ring damage	Replace O-rings as required
	Defective end caps	Check bolt torque
Motor does not run under load	Hydraulic pressure too low	Check Pressure Reducing Valve Settings
	Internal hydraulic leakage	Check the motor
Excessive motor noise (at no load)	Buzzing sound; damaged bearings	Replace bearings
The loaded motor does not run at normal speed	Insufficient hydraulic flow	Check pump flow and rotation speed. Check the high flow changeover valve. Be sure to open the high flow
	internal leakage	Inspect the cylinder block and valve body assembly
		Check the motor

The motor won't turn.	Front auxiliary hydraulics not activated	Enabling front auxiliary hydraulics for loaders
	great connector turns upside down	Switching connectors
	Excessive hydraulic leakage	Check hose and motor assembly
	hydraulic leak	Inspect the cylinder block and valve body assembly
	No hydraulic flow	Check pump drive and pump inlet
	No hydraulic pressure	Damaged or corroded valves

Check

Manual lever check

Move the control lever to engage the wedge locking pin. The lever and wedge locking pins must be able to move freely.

The wedge pins must extend through the holes in the accessory mounting bracket.

! warning

The wedge locking pin must pass through the hole in the fitting. The control lever must be fully down in place and locked.

Failure to secure the wedge locking pin can dislodge the fitting and cause injury.

The spring load must make contact with the lower edge of the hole in the wedge latch fitting.

If this wedge latch does not make contact with the lower edge of the hole, the fitting will come loose and can fall off the skid steer.

The wedge locking pin must make contact with the lower edge of the hole in the fitting.

Inspect the fittings and quick-change hangers, linkages, and wedge lock pins on the skid steer for excessive wear or damage.