

Again, if you are assigned to a truck with a underbody plow, ensure that your supervisor demonstrates how to operate the it safely.

Wing Plows

MoDOT's use of wing plows is increasing, but the idea of wing plows is not new.



The use of wing plows can greatly improve the efficiency of any plow fleet. By plowing snow back an additional 4 to 5 feet with each pass, the cycle time for plowing can be extended. On two-lane highways, one truck with a wing plow can maintain shoulderline to shoulderline clearance without getting off the roadway.

If you are assigned to run a wing plow, be sure you understand the operational aspects and safety precautions. Your supervisor will assist you.

Equipment/Spreaders

There are two basic types of spreaders MoDOT uses throughout the state.

Solid Material Spreaders

MoDOT has many types of spreaders. Ground speed spreaders have been implemented throughout the state. The ability to adjust application rates during a storm can be crucial.



The trend toward using ground speed spreaders looks to continue. Our older trucks are either mounted with v-box or tailgate spreaders that lack ground speed control. Trucks with ground speed spreaders are more efficient in both conserving material and improving safety. The new ground speed spreaders allow more hands-free control as well.

Note: *Proper calibration of the ground speed spreader is key to its efficiency.*

Slip-in spreaders slide into the dump bed of the truck and are usually accompanied by saddle tanks (on the sides) for salt brine storage. Some, but not all of these slip-in spreaders are run by ground speed computers. The operator must be aware of the particular unit he/she is using and know how to operate it properly.

Tail-gate Spreaders are mounted on the rear of the truck and salt is loaded in the bed. The tailgate is opened slightly, then the bed is raised to feed salt to the auger located in the spreader. Special caution should be taken when using these spreaders to make sure you do not hit low overheads with the bed in a raised position. Operators should also be sure that the auger in the spreader has been turned off before servicing.

Equipment /Extra

- * Tow Plows
 - ◆ One-way
 - ◆ Apply dry or liquid chemical
 - ◆ Multiple lane ability



- * Motor Grader
 - ◆ Wing operation
 - ◆ V-plow
 - ◆ Drifting or heavy snows



- * Spreaders
- * Storing of Plows

Plows should be stored on a stable surface, preferably on an asphalt or concrete pad, which allows quick attachment to the trucks. Be sure to place wood blocks under the blades to prevent damage during storage.

Operator Check List

At the beginning of the shift, the next operator **shall** check and correct any problems with the following:

	Next Equipment Operator Checklist
	Truck for body damage
	Loose lug nuts, tire damage, and/or flats
	Proper spreader gate or tailgate position
	Spreader hook-up devices
	Proper hook-up of the plow
	Condition and placement of the plow
	Plow lift chains
	Hydraulic hoses and routing
	Plow blades
	Springs and tripping devices
	Two-way radio operational
	GL 400 operating and in proper mode
	Spreader and plow controls
	Windshield wipers and blades
	On-board safety equipment and PPE

Post-storm Maintenance

After every storm, all equipment and attachments *shall* be **thoroughly** cleaned.

Equipment cleaning includes: washing the outside body, cleaning and removing trash from the cab, washing under the hood, washing the undercarriage, washing the dump bed, and washing the battery box.

Attachment cleaning includes: cleaning the spreader and plow (inside and out) and making sure the equipment is free of salt residue.

After a **thorough** cleaning, the truck and attachments **shall** be properly serviced. Servicing includes: greasing all fittings and checking all fluid levels (engine oil, hydraulic fluid, anti-freeze and washer fluid). The operator shall also check wiper blades for wear, inspect the wheels for loose lugs, inspect all equipment and attachments for damage and/or wear.

Post-season Cleaning and Storage

It is important to clean all snow removal equipment **thoroughly** after each storm. It is just as important to clean and properly store equipment after the snow removal season has ended.

All equipment used in snow removal should be thoroughly cleaned of all salt residue and greased. Special attention should be given to the moving parts of the cinderbeds, as they should be treated with an anti-rusting agent, like Lubra-Seal. It is very important to flush and treat the pumps on the brine applicators to ensure they do not freeze and crack.

Spreader Maintenance

Inspect spreader prior to installing in truck. Once installed never perform service with the spreader on. **Always shut off the hydraulics and truck prior to performing maintenance.**

- ◆ Inspect for and ensure that all safety guards and shields are in place
- ◆ Inspect drag chains for damage and proper tension
- ◆ Check drag chain gear box for leaks, damage, and proper fluid level. Ensure gear box vent is not clogged
- ◆ Inspect GL-400 cables for damage. Clean connections and lubricate with a dielectric grease (use small amount)
- ◆ Inspect all hydraulic lines for damage and leaks
- ◆ Inspect pre-wet system tanks, hoses, pumps for leaks and damage. Remove and inspect pre-wet filter screen for debris
- ◆ Inspect gate jack and lubricate as needed

Chain Inspection

Chain inspection/maintenance is important for proper operation of the spreader and is vital to the performance of the spreader. Disregard to chain condition and proper tension can lead to drag chain failure.

- ◆ Inspect bearings for damage.
- ◆ Lubricate all bearing and fittings prior to winter storm
- ◆ Inspect chain condition and tension.
- ◆ When chain is under proper tension, it should drop to the frame rail from 8" to 20" back from front chain drive

