Wing Plow Best Practices

KDOT has two dump truck mounted wing-plow styles. The extendable wing and the mid-mount wing. You can identify which wing style by how they are mounted and carried on the truck. The extendable wing when stowed is carried parallel with the bed and next to the duals on the truck. The mid-mount wing, when stowed, swings up at an angle to the side of the dump truck bed.

The wing plow is a tool that allows the operator to plow a full lane in one pass. When it is deployed on a two-lane roadway it provides distance between the tires and the edge of the roadway. Before deploying a wing, the operators mirrors should be adjusted to allow the wing to be visible to the operator. Correct mirror adjustment allows the operator to watch for curbs, gutters, and other obstacles at the edge of the roadway. The wing plow has a heel and a toe. The heel is closest to the truck with the toe being the outside end.

Wing plows have a shear bolt that will allow the toe of the plow to break away at the designed shear point instead of damaging the plow. Shear bolts are used to protect equipment from sudden impact or excessive load at the toe of the plow. The shear bolt breaks instead of the plow. The shear bolt should be a Grade 8 rated bolt. It is a harder bolt that will break (shear) instead of bend. Extra bolts should be carried with the operator along with tools to install new bolts when they break. **The shear bolt should not be modified at any time.**

Due to the fact the wing plow has less down pressure on the plow bits, it is recommended that only one set of carbide bits and a face plate are used on the wing. The face plate helps stabilize the carbide bits at their joint. Double carbide bits are not recommended on wing plows. The heel on the mid-mount plow, (the part of the blade closest to truck) of the wing plow blade, should have a 45-deg. angle cut in it. This is so the edge of the blade doesn't dig into pavement when lowering.

The wing-plow is recommended to be used in conjunction with the front plow. Although, frozen snow piles should be removed using the front plow. Damage can occur to the wing when attempting to push back frozen snowpack. It is recommended that the front plow be used for larger piles of snow. Large piles of snow will roll over the wing. The wing plow is not designed to be used to plow off gravel, dirt, or other maintenance materials. It is not a motor grader.

Let's look at some of the best practices for both styles of plow:

Extendable Wing:

- The extendable plow should not be used to bench snow.
- Snow and slush can build up in and around the extension tube then freeze. This will keep the plow from extending and retracting.

Mid-Mount Wing:

- When snowpack is bonded to the pavement, the wing can jump or bounce.
- If the wing is jumping or bouncing while plowing, slow down to a point where the wing does not jump or bounce. A wing that is jumping or bouncing can potentially hit the side of the truck and cause damage.
- The mid-mount wing can be used to bench with.

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Guidance of using wing-plows in an open lane:

Snowplow trucks with a wing-plow attachment may occupy two lanes of through traffic, as well as freeway ramps, if the following conditions are met. This is not to be considered standard practice and should only be used when deemed necessary by the Supervisor and done by experienced plow truck operators.

- An approved lighted wing stick must be installed on the wing-plow. The minimum length of lighted stick should be **36 inches**.
- The operator is responsible for checking that the lights are functioning, and that conspicuity tape and other safety features are in proper working order and cleared of ice and snow as part of their pre-trip inspection. These features should be checked during the shift at turnarounds and during reloading operations.
- That traffic, visibility and other conditions are appropriate for the use of the wing-plow in an active lane of traffic. If the wing-plow is in an active lane of travel and is creating a safety issue, operators will discontinue use of the wing-plow in the active lane of travel.

Safety Considerations

The operator must stay aware of weather, pavement, and traffic conditions; the positions of plows; the presence of roadside structures or obstructions. Other considerations include:

- If necessary, slow speed to avoid casting snow over bridges or overpasses.
- Adjust the plow angle so the plow does not drop into bridge expansion joints when crossing bridges.
- Lift plow high enough to clear railroad tracks at rail crossings.
- When using a wing plow, watch for and adjust the plow for roadside obstructions such as guard rail, sign posts, fire hydrants, and mail boxes.