KMW FRONT END Loaders

OPERATORS MANUAL
OPERATION SECTION

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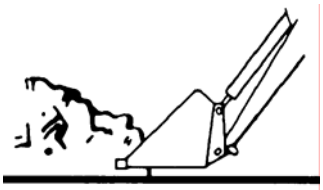
1. OPERATING INSTRUCTIONS

The loader should be operated with the tractor engine running from 1700 to 2200 rpm. Excessive speeds are dangerous, and may cause bucket spillage and unnecessary strain on the tractor and loader.
When operating in temperatures below 30°F, run the tractor engine below 1200 rpm until the hydraulic fluid temperature exceeds 30°F.
The following text and illustrations offer suggested loader and tractor operating techniques.

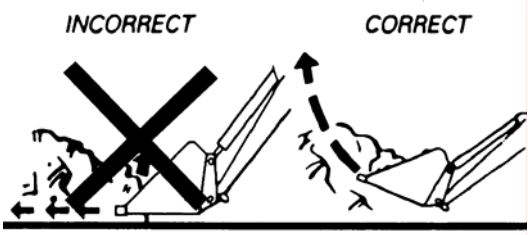
IMPORTANT: If your loader is equipped with Optional Hydraulic Self Leveling refer to following operating instructions along with operating instructions in Optional Hydraulic Self Leveling section in this manual.

1.1. FILLING THE BUCKET

Approach and enter the pile with a level bucket. Then rollback and lift the bucket.



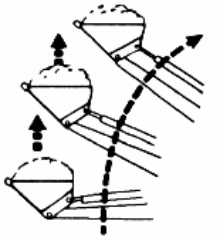
The rollback and lifting of the bucket will increase efficiency because a level bucket throughout the lifting cycle resists bucket lift and increases breakaway effort.



NOTE: Do not be concerned if the bucket is not completely filled during each pass. Maximum productivity is determined by the amount of material loaded in a given period of time. Time is lost if two or more attempts are made to fill the bucket on each pass.

LIFTING THE LOAD

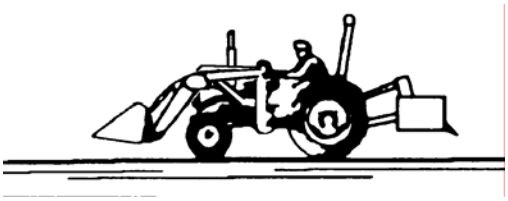
When lifting the load, keep the bucket positioned to avoid spillage.



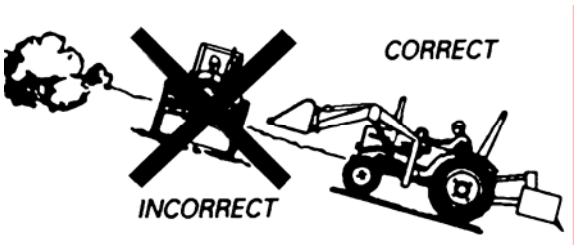
CAUTION: Do not attempt to lift bucket or attachment loads in excess of the loader capacity.

1.2. CARRYING THE LOAD

Position the loader in a low position when transporting a loaded or empty bucket or attachment.
Use extreme care when operating the loader on a slope. Keep the bucket as low as possible. This keeps the bucket and tractor center of gravity low and will provide maximum tractor stability.



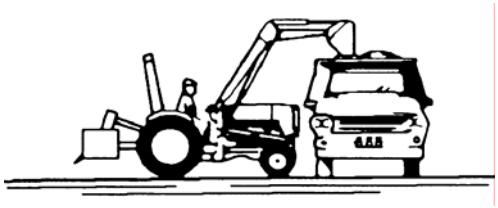
CAUTION: Operating the loader on a hillside is dangerous and is not recommended.



When transporting a load, keep the bucket as low as possible to avoid tipping, in case a wheel drops in a rut.

1.3. DUMPING THE BUCKET

Lift the bucket just high enough to clear the side of the vehicle. Move the tractor in as close to the side of the vehicle as possible, then dump the bucket.

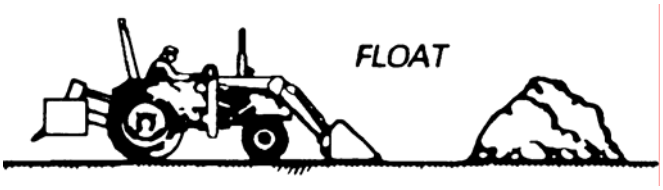


1.4. LOWERING THE BUCKET

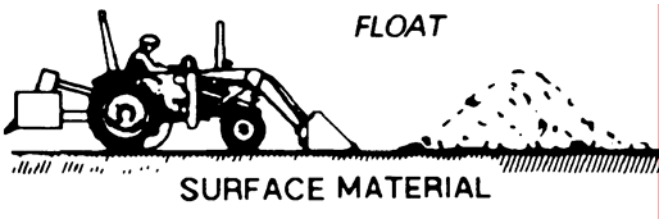
After the bucket is dumped, back away from the vehicle while lowering and rolling back the bucket.

1.5. OPERATING WITH FLOAT CONTROL

During operation on hard surface, keep the bucket level and position the lift control in the float position to permit the bucket to float on the work surface. If hydraulic down pressure is exerted on the bucket, the cutting edge will wear faster than normal.



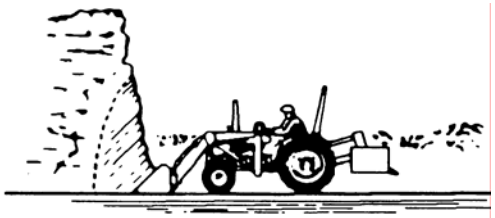
The float position will also avoid mixing of surface material with stockpile material. The float position will reduce the chance of surface gouging while removing snow or other material, or when working with a blade.



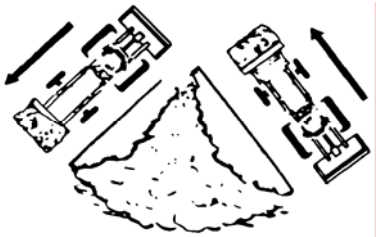
1.6. LOADING FROM A BANK

Choose a forward gear that provides a safe ground speed and power for loading.

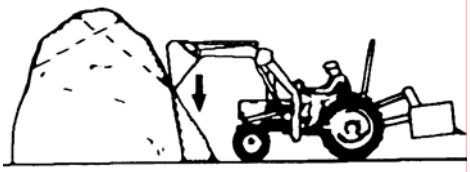
CAUTION: Exercise caution when undercutting high banks. Dirt slides can be dangerous. Load from as low as possible for maximum efficiency. Loader lift and breakaway capacity diminish as loading height is increased.



Side cutting is a good technique for cutting down a big pile.

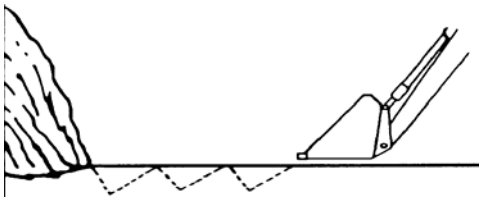


If the pile sides are too high and liable to cause cave-in, use the loader to break down the sides until a slot can be cut over the top.



Another method for large dirt piles is to build a ramp approach to the pile.

It is important to keep the bucket level when approaching a bank or pile. This will help avoid gouging the work area.

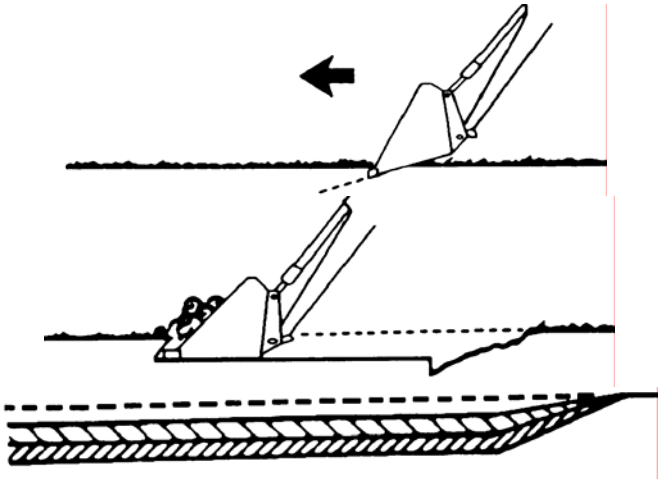


1.7. PEELING AND SCRAPING

Use a slight bucket down angle, travel forward, and hold the lift control forward to start the cut. Make a short cut and breakout cleanly.

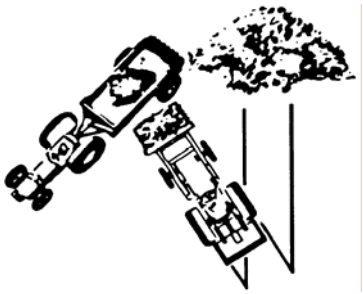
With the bucket level, start a cut at the notch approximately 2 in. deep. Hold the depth by feathering the tilt control to adjust the cutting edge up or down. When the front tires enter the notch, adjust the lift cylinder to maintain proper depth.

Make additional passes until the desired depth is reached. During each pass, use only the tilt control while at working depth. This will allow you to concentrate on controlling the bucket angle to maintain a precise cut.

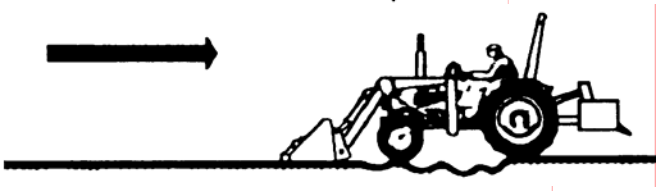


1.8. LOADING LOW TRUCKS OR SPREADERS FROM A PILE

For faster loading, minimize the angle of turn and length of run between pile and spreader.

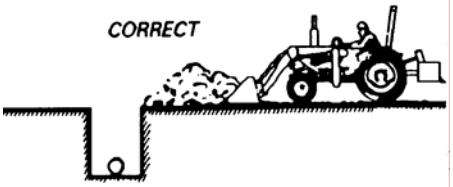


Back grade occasionally with a loaded bucket to keep the work surface free of ruts and holes. Also, hold the lift control forward so the full weight of the bucket is scraping the ground. Use the heel of the bucket.

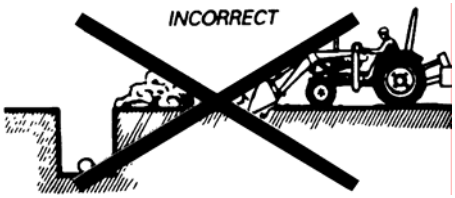


1.9. BACKFILLING

Approach the pile with the bucket flat.

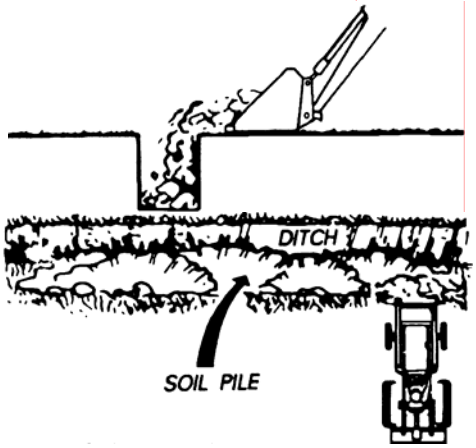


Poor operating methods actually move no more dirt and make it more difficult to hold a level grade. Do not use the bucket in the dumped position for bulldozing. This method will impose severe shock loading on the dump-linkage, the tilt cylinders, and the tractor.

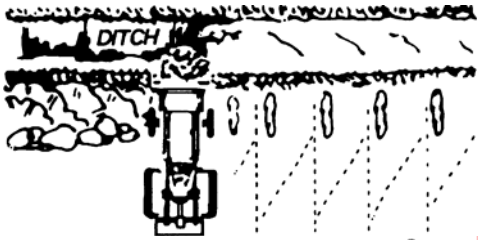


Leave dirt in the bucket because dumping on each pass wastes time.

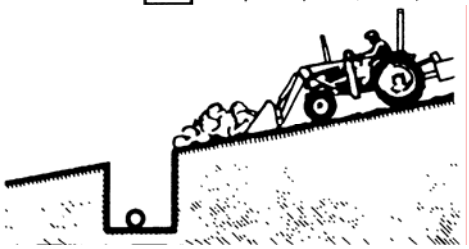
Operate at right angles to the ditch, taking as big a bite as the tractor can handle.



Leave dirt that drifts over the side of the bucket for final clean up.



Pile dirt on the high side for easier backfilling on a slope.



1.10. HANDLING LARGE HEAVY OBJECTS

CAUTION: Handling large heavy objects can be extremely dangerous due to:

- **Danger of rolling the tractor over.**
- **Danger of upending the tractor.**
- **Danger of object rolling or sliding down the loader boom onto the operator.**

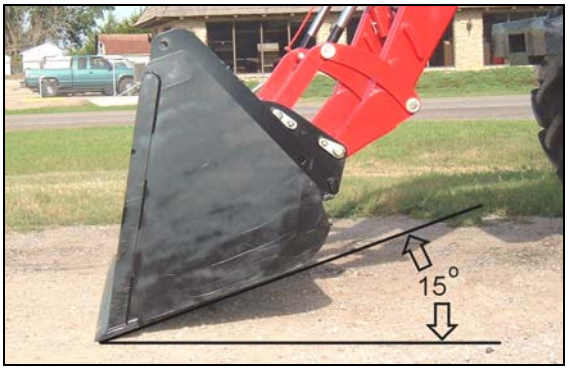
CAUTION: If you must perform the above work, protect yourself by:

- **Never lifting the load higher than necessary to clear the ground when moving.**
- **Adding rear ballast to the tractor to compensate for the load.**
- **Never lifting large objects with equipment that does not have an anti-rollback device.**
- **Moving slowly and carefully; avoiding rough terrain.**

1.11. BACK GRADING

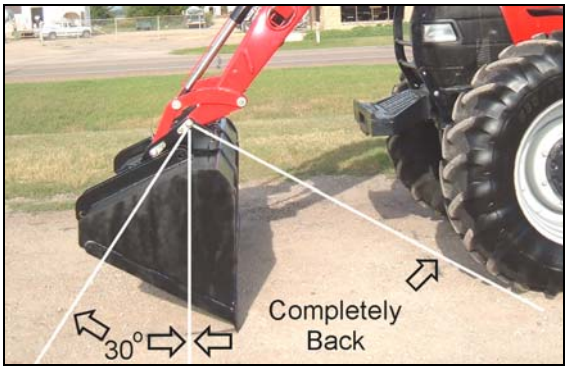
When back grading, the angle between the bottom of the bucket and the ground must not be more than 15 degrees.

Failure to follow these instructions could cause loader tilt cylinders to fail and void warranty.



Never use bucket or other attachment in position shown to push or doze material. This will cause excessive pressure in bucket cylinder and will cause failure to your loader, which is not covered under warranty.

NOTE: Never dump bucket over with grapple open and use grapple as a ripper. This will cause excessive pressure in bucket cylinder and will cause failure to your loader, which is not covered under warranty.



Never push on bucket when it is in this position.

1.12. HYDRAULIC SELF LEVELING OPERATING INSTRUCTIONS WHEN INSTALLED ON LOAD SENSE AND CLOSED CENTER HYDRAULIC SYSTEMS

IMPORTANT: With hydraulic self leveling, bucket or attachment angle can be adjusted throughout raising and lowering cycles of loader.

CAUTION: When using a loader be alert of bucket or attachment position at all times. Loader in raised position with bucket or attachment rolled back can dump material onto tractor causing damage or injury to tractor and/or operator.

1.12.1. The hydraulic self leveling system maintains the orientation of the loader attachment relative to the plane of the tractor tires as set by the operator using the loader attachment cylinders. As long as the attachment cylinders are not operated, the orientation of the attachment will remain when the lift cylinders are functioned. The hydraulic self leveling function is controlled by a manifold block mounted on the outside of the right hand loader bearing box.

IMPORTANT NOTE: Self leveling of the KMW loader is accomplished by utilizing a hydraulic self leveling valve. Since oil flow is required to allow this valve to function correctly, the tractor must operate at 1500 RPM or above. Following these instructions allows self level valve to function consistently during loader operation.

1.12.2. If the operator feathers the loader valve the self leveling valve will not level during the raise cycle. This is caused by the limited oil flow coming out of the loader valve. Always fully stroke the loader valve when raising the unit.

1.12.3. When lowering a loaded attachment feathering the load down will allow consistent leveling of the load.

1.12.4. With heavy loads on unit the loader may bounce when lowering load. Running tractor at high rpm will minimize the bounce you may see.

1.12.5. When loader is equipped with self level valve, the operator will see some cycle time speed reductions. However the operator does not have to move bucket manually during cycling of the loader which speeds up the overall operation.

1.12.6. Lowering the load with 2-way self leveling requires metering the return oil from the valve to maintain self leveling operation. This will result in an increased lowering time.

1.12.7. Always let tractor hydraulic oil warm up to operating temperature before using the unit.

1.12.8. Lowering loader with attachment rolled back against rollback stops will cause cylinder cavitation. If loader is then raised, self leveling function will be delayed. **NOTE:** Lowering loader with bucket rolled off of rollback stops will reduce cavitation and provide more consistent leveling.

1.12.9. If loader attachment is completely rolled back against rollback stops and operator tries to lower loader, the loader will lower slowly. To speed up this operation the operator can roll attachment forward away from rollback stops to allow loader to speed up during the lowering cycle and reduce cavitation.

1.12.10. If loader attachment is dumped against dump stops and operator tries to raise loader. The loader will raise slowly. To speed up this operation the operator can roll attachment back away from the loader mechanical stops to allow loader to raise quicker.

1.12.11. Hydraulic self level will not work when loader is in the float position ONLY use float position when the loader is on the ground. Float operation will be slightly slower on a unit equipped with hydraulic self leveling.

1.12.12. Do not use the front-end loader to lift the front wheels of the tractor off the ground for an extended period of time. The self leveling valve has some inherent internal leakage that will cause loader movement which could cause personal injury or death.

NOTE: With self leveling installed loader down pressure will be limited. This is caused by the relief valve in the self leveling block activating. With hydraulic self leveling installed on most units the loader will not pick up the front end of the tractor.

DANGER: Never use the loader to lift front end of tractor off of ground to service the unit. Failure to follow these instructions could cause personal injury or death.

1.12.13. To improve self level while lowering a load, always roll back load slightly before lowering loader. Raising or lowering loader with attachment rolled back slightly from level will improve self leveling in both directions.

1.12.14. Never dump loaded attachment over more than required to do the job. Rolling heavy loads over too far could cause self level counter balance valve to open allowing attachment to dump.

CAUTION: When using a loader be alert of bucket or attachment position at all times. Loader in raised position with bucket or attachment rolled back can dump material onto tractor causing damage or injury to tractor and/or operator.

1.13. HYDRAULIC SELF LEVELING OPERATING INSTRUCTIONS WHEN INSTALLED ON OPEN CENTER SYSTEMS

IMPORTANT: With hydraulic self leveling, bucket or attachment angle can be adjusted throughout raising and lowering cycles of loader.

CAUTION: When using a loader be alert of bucket or attachment position at all times. Loader in raised position with bucket or attachment rolled back can dump material onto tractor causing damage or injury to tractor and/or operator.

1.13.1. The hydraulic self leveling system maintains the orientation of the loader attachment relative to the plane of the tractor tires as set by the operator using the loader attachment cylinders. As long as the attachment cylinders are not operated, the orientation of the attachment will remain when the lift cylinders are functioned. The hydraulic self leveling function is controlled by a manifold block mounted on the outside of the right hand loader bearing box.

IMPORTANT NOTE: Self leveling of the KMW loader is accomplished by utilizing a hydraulic self leveling valve. Since oil flow is required to allow this valve to function correctly, the tractor must operate at medium RPM. Following these instructions allows self level valve to function consistently during loader operation.

1.13.2. If the operator feathers the loader valve down, the self leveling valve will not level. This is caused by the limited oil flow coming out of the loader valve. Always fully stroke the loader valve (without moving it into the float position) during operation, this will allow full flow of oil to the self level valve.

1.13.3. With heavy loads on unit the loader may bounce when lowering load. Running tractor at high rpm will minimize the bounce you may see. Loader valve spool must be fully stroked during loader operation.

1.13.4. When loader is equipped with self level valve, the operator will see some cycle time speed reductions. However the operator does not have to move bucket manually during cycling of the loader which speeds up the overall operation.

1.13.5. Always let tractor hydraulic oil warm up to operating temperature before using the unit.

1.13.6. If loader attachment is completely rolled back against rollback stops and operator tries to lower loader. The loader will lower slowly. To speed up this operation the operator can roll attachment forward away from rollback stops to allow loader to speed up during the lowering cycle.

1.13.7. If loader attachment is dumped against dump stops and operator tries to raise loader. The loader will raise slowly. To speed up this operation the operator can roll attachment back away from the loader mechanical stops to allow loader to raise quicker.

1.13.8. Loader will not float with hydraulic self level installed on open-center hydraulic systems.

1.13.9. Do not use the front-end loader to lift the front wheels of the tractor off the ground for an extended period of time. The self leveling valve has some inherent internal leakage that will cause loader movement which could cause personal injury or death.
NOTE: With self leveling installed loader down pressure will be limited. This is caused by the relief valve in the self leveling block activating. With hydraulic self leveling installed on most units the loader will not pick up the front end of the tractor.

DANGER: Never use the loader to lift front end of tractor off of ground to service the unit. Failure to follow these instructions could cause personal injury or death.

1.13.10. To improve self level while lowering a load, always roll back load slightly before lowering loader. Raising or lowering loader with attachment rolled back slightly from level will improve self leveling in both directions.

1.13.11. Never dump loaded attachment over more than required to do the job. Rolling heavy loads over too far could cause self level counter balance valve to open allowing attachment to dump.