

# 1800 SERIES SUKUP SHREDDER SAFETY SECTION



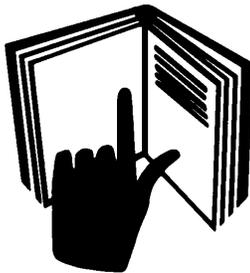
## RECOGNIZE SAFETY ALERT SYMBOL

The above safety-alert symbol means "Attention! Be Alert! Your personal safety is involved! This symbol draws your attention to important instructions concerning your personal safety. Read the message carefully to avoid personal injury or death.



## FOLLOW MACHINE SAFETY SIGNS & MESSAGES

Observe safe operating practices. Carefully read this manual and all safety signs on your equipment. Safety signs must be kept in good condition. Replace missing or damaged safety decals; available from Sukup Manufacturing Co., 1555 - 255th Street, Box 677, Sheffield, Iowa 50475 at no charge.



Learn how to use controls and operate machine. Do not let anyone operate unit (especially youth) without thorough training of basic operating and safety procedures.

Make no unauthorized modifications to machine. Modifications may endanger function an/or safety of unit. Keep unit in good working condition.



## EMERGENCIES - KNOW WHAT TO DO

Have emergency numbers near your telephone:

- For doctors:
- Emergency medial squad:
- Ambulance service:
- Hospital:
- Fire department:

Have written directions to your location:



Always park the shredder on level ground and block the wheels when unhooking from the tractor. Drop front parking stands and lower shredder in down position before unhooking tractor from shredder.

Always check tractor and shredder before towing on the road. Use safety chain provided to secure the shredder to the tractor.



**!** Safety decals are mounted when shredder is assembled. Yearly and prior to equipment use, please check that all decals and shields are securely in place according to the drawing and in good legible condition. To order a replacement decal or shield (no charge) contact your dealer or Sukup Manufacturing Co., 1555 255th Street, Box 677, Sheffield, Iowa, 50475. Please specify computer number.

**IMPORTANT!!** If suggested locations are not clearly visible, place safety decals in more suitable area. Never cover up any existing safety decals. Make sure location for decal is free from grease, oil, and dirt. Remove backing from decal and place in proper position.

1. WARNING - To Avoid serious injury or death. - **Decal L0281**



2. WARNING - No riders! - **Decal L0274**



3. WARNING - Escaping fluid under pressure can cause serious injury and requires doctor's attention. - **Decal L0273 - USE ONLY FOR PULL TYPE HITCH & END TRANSPORT SHREDDERS**



4. DANGER - Keep Away! Rotating Drive Line – Decal L0250



9. DANGER - Keep away - Discharge area Decal - L0251



5. CAUTION - Not intended for use on public roads.- Decal L0285



10. Amber reflector tape – Decal L0276  
 11. Red reflector tape - Decal L0277  
 12. Sukup Sticker – Decal L05171  
 13. Grease zerk sticker (10 hrs.)– Decal L0312 (For swivel wheels only)  
 14. S.M.V. Sign - S8901



6. WARNING - Keep away from moving parts. - Decal L0284



15. Orange reflector tape – Decal L02765 (2x9")  
 16. DANGER - Shield Missing! – Decal L0271



7. WARNING - Look & Listen for rotation Decal L0289



17. Light Kits #S5248 For 15' and above.  
 18. Grease zerk sticker (40 hrs.)  
 19. Serial # -  
 20. 3-point hitch sticker

8. DANGER - To prevent being crushed Decal L0282



21. WARNING - Use Safety Chain when towing unit to eliminate detachment hazard. Decal - L0512 See page 37 for Safety Chain Placement.



# OPERATION

Be careful when operating the shredder to avoid injury to the operator and assistants. If the shredder must be in a raised position when working on it or near it, be sure proper safety precautions are taken.

Permit only one person, the operator, on the tractor platform while tractor and shredder are in operation. Be careful when operating on side hills because the tractor may tip sideways if it strikes a hole, ditch, or other irregularity. Never ride or permit others to ride on the draw bar of the tractor or on the shredder.

Hydraulic oil escaping under pressure can have sufficient force to penetrate the skin causing serious personal injury. Before disconnecting lines be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes, and hoses are not damaged.

Oil escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood instead of a hand to search for suspecting leaks. If injured by escaping oil, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately. Always relieve pressure in a hydraulic system before working with hydraulic system components.

Remember this, an accident is usually caused by the carelessness, neglect, or oversight of someone.

## Machine Break-In: (A)

1. Before starting the shredder, check the oil level in the gear case and lubricate the machine. Add oil if necessary. See Lubrication and Maintenance Section.
2.  CAUTION: Never operate the shredder until the powershaft and other safety shields are in place and secured. Tighten all nuts and check cotter pins to see they are properly installed.
3. Although there are no operational restrictions on the shredder when used for the first time, the following items should be checked:
  - A. After operating for 1/2 hour or after 5 acres:
    1. Check all fasteners. Tighten to their specified torque.
    2. Check and tighten wheel lug nuts.
    3. Check that the knives are in good condition and hinge freely.
    4. Check the oil in the gearbox.
    5. Check the PTO shaft for any binding
    6. Re-tighten wheel-leg U-bolts to specified torque.
  - B. After operating for 5-10 hours:
    1. Repeat items 1-5 above.

## 4. Tractor PTO:

The Sukup Shredder is designed and balanced to operate with PTO speed of 1000 RPM. Do not exceed the rated PTO speed. Avoid making sharp turns with the PTO engaged when using a standard PTO driveline, as this will put increased stress on the entire drive train. **Do not attempt to use any type of adapter to change size or spline of the tractor PTO to match the shredder. Always use the correct PTO shaft.** Be certain the drawbar is in the regular (center) position - there should be at least 15-3/4" horizontally from the center of the drawbar hole to the end of the PTO shaft to prevent the driveline from bottoming out.

## 5. Turning Pull Type

### CV Drive line with over running clutch

Shredder equipped with CV (Constant Velocity) joint will allow sharper turns than a regular driveline; however, the CV joint angle should not exceed 80° in either operating or at a standstill. Larger angles will damage the joint. The driveline angle should not exceed 35° when under full load.

## 6. 3 Point or Semi Mounted

### Drive line with Overrunning Clutch

**Make certain angles do not exceed more than 20° when lifting, when machine is running, or under load.** Shut PTO off when LIFTING or TURNING at end of row. Do not lift shredder to a high position while the PTO is running or driveline damage will occur.

## 7. Tractor Speed:

Ground speed can vary between 3 and 8 mph depending on trash and terrain conditions. The speed can be increased if the shredder is doing a good job. Decrease speed if all trash is not being shredded. A lower ground speed will also decrease power requirements by reducing the amount of material being shredded. A higher ground speed will increase power requirements.

Under most conditions, the tractor can be operated at 3 to 8mph without causing undue wear on the shredder. Avoid excessive speeds. Reasonable speeds result in higher productivity.

Various shredding conditions require different ground speeds. Best results will be obtained by running the tractor at the travel speed that will meet field conditions or the speed where the smoothest cutting action results.

## 8. Cutting Height Setting:

Set the unit height to give a hammer height of 3 to 6" above the ground. In most conditions the shredder will perform more efficient if the front of the shredder is 1-1/2 to 3" higher than the back. The adjustment for the screw jack on each wheel assembly is in the back of the unit. **Important:** All wheels should be adjusted evenly. On pull type models the front height is adjusted by using a ratchet jack or hydraulic cylinder kit.

The front height on mounted shredders is controlled by lowering linkage on tractor controls.

## FIELD OPERATIONS (B)

- 1. IMPORTANT: When operating the shredder always check the cutting height so the knives do not hit the ground, stones, etc.**
- 2. IMPORTANT: Always operate the shredder with the tractor at recommended speed to obtain 1000 rpm on the tractor PTO shaft.**
- If turns at ends of fields are not too severe, you may leave the PTO engaged. Reduce ground speed of tractor to save wear on the PTO. If necessary, clear ends of the field before beginning your shredding operation. **IMPORTANT: Do not engage PTO with engine running at high speed. Doing so may cause undue wear or possible driveline and/or gear case damage.**
- 4. IMPORTANT: The constant striking of knives on frozen ground and sudden impacts will cause excessive wear and damage. Raise shredder so knives do not contact frozen ground.**

## MAINTAINING ROTOR BALANCE

- The rotor on your flail shredder is dynamically balanced and must be maintained in balance throughout the life of the machine. The rotor must be kept clean and worn knives replaced.

## ADJUSTING CUTTING HEIGHT

- The cutting height of the knives is controlled by extending or retracting the hydraulic cylinder. Retracting the cylinder lowers the knives and extending the cylinder raised the knives. For best possible cut, operate the knives 3 to 6" above the ground. **IMPORTANT: Under no circumstances should the knives contact the ground. To do so will cause undue wear to the knives as well as possible damage to the rotor.**

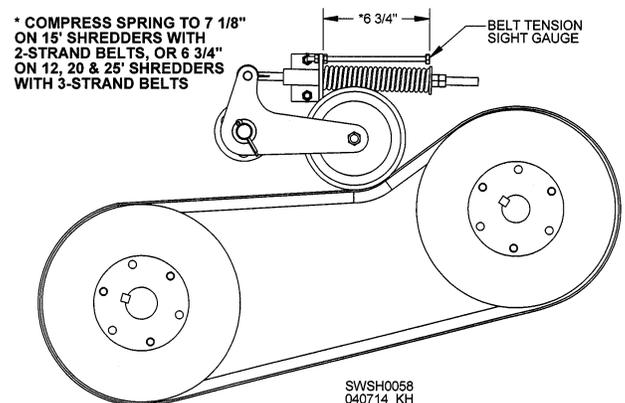
## ADJUSTING ROTOR DRIVE BELTS

- Before beginning the shredding operation, the rotor drive adjustments, at each rotor drive end, must be checked to assure proper belt tension.

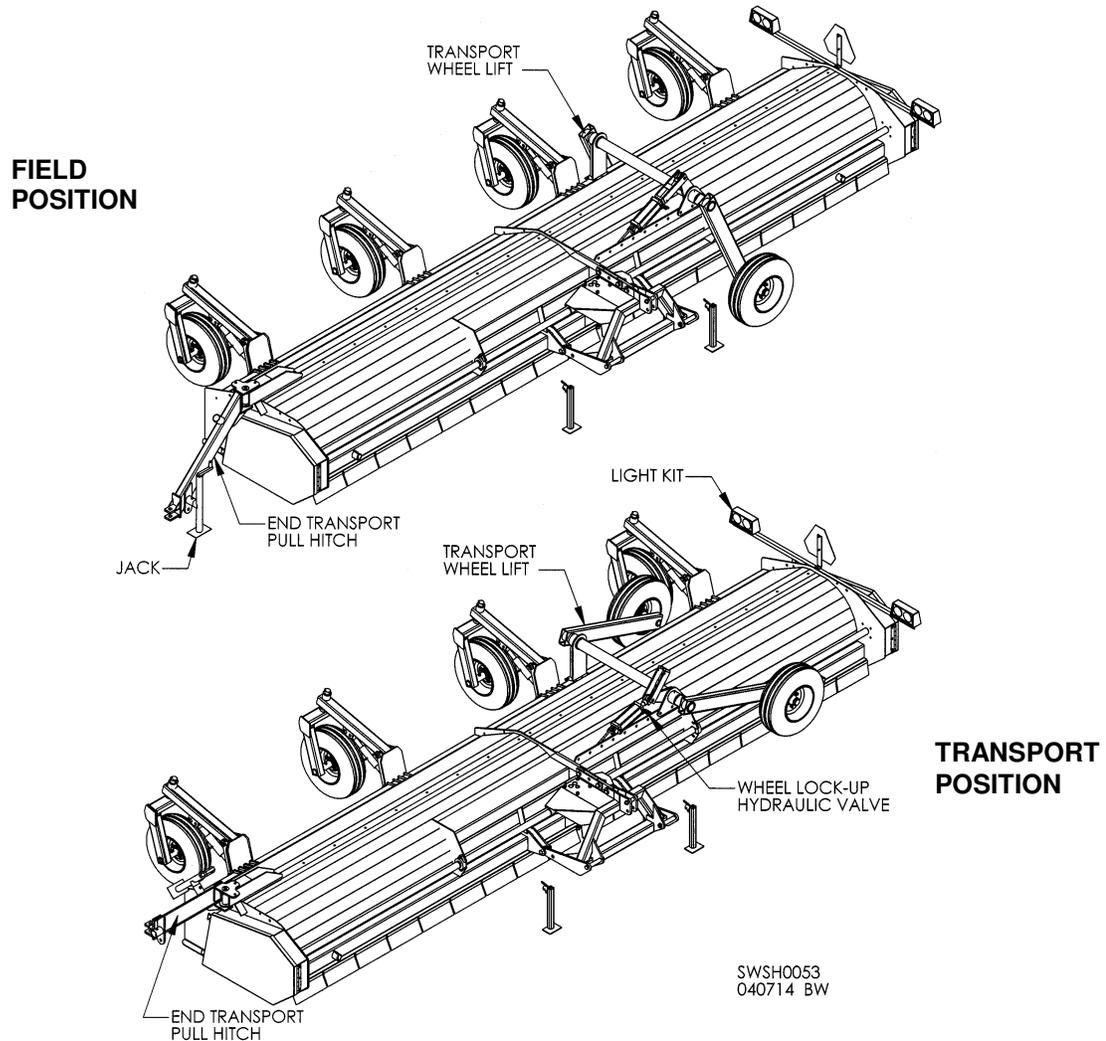
To check adjustments, first open the belt shield door-make sure PTO is disengaged and tractor engine is off.

Adjust belt tension by tightening or loosening the 1/2" Hex Nuts on adjustment rod until spring is compressed to 6-3/4" long on 3 banded belts, (7-1/8" on 15' dual drive with 2 banded belt) to adequately tension the belt. Use the 5/16" bolt alongside the spring as a quick-check sight gauge.

**IMPORTANT: The idler spring must not be solidly compressed. Hand pressure on the bottom belts must produce movement in the spring assembly.**



## OPERATION END TRANSPORT SYSTEM



1. Raise front of shredder on pull type with front hitch cylinder or on 3 point models use tractor 3 point lift.
  2. Lower the two parking stands in front of shredder.
  3. Lower shredder so front of shredder rests on parking stands.
  4. Unhook shredder from tractor.
  5. Connect hydraulic hoses to tractor from wheel lift on end transport.
  6. Swing out end hitch to end pull position.
  7. Swing down Jack on end hitch and adjust to tractor draw bar height.
  8. Hydraulically raise end transport wheels and swing cylinder lock in place.
  9. Hook tractor to end pull hitch, lower Jack and swing into fold-up position.
- Shredder is ready for road transport. For field position reverse above steps.