

# **KIRCHNER MACHINE LTD.**

**2419 - 2nd. Ave. North  
Lethbridge, Alberta  
Canada T1H 0C1**

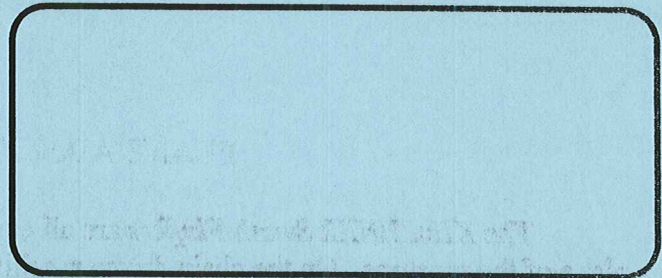
**Office - (403)328-5568 Sales - (403)328-5569 Parts - (403)327-3678  
FAX (403)328-3883**

## **OPERATORS MANUAL**

# **Model G Swath Fluffer**

**3 point or pull type – chain driven**

**Assembly Instructions  
Operating Instructions  
Plane Adjustment**



**RETAIL DEALER  
Parts and Service**



## OPERATING INSTRUCTIONS

*KIRCHNER Swath Fluffers* are designed to lift and fluff a swath of hay, grain, beans or other material so that air can get under the swathed crop to dry or cure faster and allow harvesting to take place much sooner.

This is accomplished by the teeth of the machine being shaped with a gentle curve to gather the crop and then gradually lift and release the swath. The placement of the 8 bars of teeth was very important in the design of the machine, to keep the outside circumference as small as possible for the proper spacing between each row of teeth to allow room for the teeth to enter the swath and to release without excessive bunching.

When operating, the teeth should be just above the ground. If you set them too low they will grab into the ground and as they release they will spring and flip the swath instead of releasing it too gently and letting it flow away from the back of the swath fluffer. If you set the machine too high the teeth will not get to the bottom of the swath and leave some material untouched.

*KIRCHNER Swath Fluffers* accomplish the fluffing action because the drum with the teeth on it rotates **slower** than the forward speed of the machine. In other words the drum speed is **retarded** when compared to the forward speed by means of a hydraulic motor. This allows the material in the swath to be pulled forward by the teeth for a short distance before it is picked up and released. The amount of retarding the speed of the drum and the forward speed of the machine is what determines the amount of fluffing you will accomplish. The *KIRCHNER Swath Fluffer* does not start to create a fluffed swath until they are up to at least 4 mph and most swath fluffing is done from 6 to 12 mph.

Ground driven or chain driven *KIRCHNER Swath Fluffers* have a pre-determined retardation of the speed of the drum built into them. This is accomplished by the circumference of the 6:70 x 15 tire which runs on the ground, driving a 30 tooth sprocket which drives the sprocket attached to the drum. All chain drive swath fluffers are equipped with a 46 tooth sprocket on the drum. If you want to change the speed of the drum on a chain driven swath fluffer you would change the sprocket on the drum, **NOT** the drive sprocket on the wheel. To make the drum turn slower and to make the machine fluff more at lower speeds you would increase the size of the sprocket. To make the drum run faster or to do less fluffing or to lessen leaf loss or grain shelling you would decrease the size of the sprocket on the drum. The chain driven swath fluffers do not move the material in the swath to either side but may spread the swath out so that it is a few inches wider than the original swath. Additional sprockets which are No. 60 pitch chain with a 1" diameter hub are available from Kirchner Machine Ltd., your local Kirchner dealer or most any machine shop which carries sprockets. Please note that you have to add or subtract from the length of the No.60 roller chain in accordance with the change you make in the size of the sprocket.

## PLANE ADJUSTMENT

The *KIRCHNER Swath Fluffers* are all equipped with an adjustment to change the plane of the machine. On the chain driven machines this is done by adjusting the length of the adjustment pipe. **The normal height of the front pipe basket frame is approximately 14" of the ground** when the teeth are just touching the ground.

To change the plane of a chain drive swath fluffer, begin by putting a jack under the back of the centre of the basket assembly. There is usually room for the lift jaw of a jack-all type jack to go between two of the bands and lift on the black angle frame just slightly to one side of the centre. Do not try this with out the machine being hooked to the tractor.

As you jack up on the back side of the basket assembly, the adjustment pipe should slide through the pipe of the cap with pipe. You can then loosen the set screw with rod handle which is in the pipe clamp and move the pipe clamp in or out to give you more or less plane to the basket. Retighten the set screw with the rod handle and let the jack down. The pipe clamp will come in contact with the cap with pipe at a different point than before, thus changing the plane of the basket assembly. Experimentation of more or less plane can be done if the swath fluffer is not doing exactly what you want it to do. Variation in crops, types of swathers, direction of original swath, weather conditions and speed of operation all cause different results. By adjusting the plane of the basket assembly slightly up or down you should notice a difference in the fluffed swath being better or worse. After determining which is the best, you can re-adjust more or less plane to the basket.



## ASSEMBLY INSTRUCTIONS

These instructions are for installing hitch, chain drive and axle assemblies onto completely assembled basket assembly.

1. Set basket assembly on floor on the teeth with a block 12" to 14" high under front pipe of basket frame and a longer block or stand under back pipe of basket frame. Install cross frame onto the front pipe of the basket using only three black pipe clamps and  $\frac{1}{2}$ " x  $\frac{1}{2}$ " bolts with Heavy Duty nuts and lock washers. Centre by measuring from both ends. Do not tighten bolts. Install pull hitch into cross frame using only two  $\frac{3}{4}$ " x 5" bolts with Heavy Duty nuts and lock washers. Make sure cylinder block is on top when installing hitch. Install right hitch brace (pipe) and left hitch brace onto the hitch with a  $\frac{1}{2}$ " x 4  $\frac{1}{2}$ " bolt onto the two ears of the cross frame with  $\frac{1}{2}$ " x 1  $\frac{1}{2}$ " bolts. Secure these three bolts with  $\frac{1}{2}$ " Heavy Duty nuts and lock washers. Install short pipe stand, from bottom, into pipe which is welded to side of hitch and secure with  $\frac{1}{2}$ " x 1" set screw with rod handle. Install clevis onto front of pull hitch with  $\frac{3}{4}$ " x 4  $\frac{1}{2}$ " bolt, plus two  $\frac{3}{4}$ " flat washers and secure with  $\frac{3}{4}$ " Heavy Duty nut and lock washer.
2. Install two rocker arms which are  $\frac{1}{2}$ " x 3" flat straps 17" long with 3 holes. Mount the end of the rocker arms with the single  $\frac{3}{4}$ " hole onto the pull hitch. One on each side using a  $\frac{3}{4}$ " x 5  $\frac{1}{2}$ " bolt and secure with only two jam nuts locked together. Install cap with pipe onto the centre of the rear basket frame using a black pipe cap and only two  $\frac{1}{2}$ " x 1  $\frac{1}{2}$ " bolts with Heavy Duty  $\frac{1}{2}$ " nuts and lock washers. Install adjustment pipe onto the pipe part of the (cap with pipe) and bolt the other end in the top hole in between the two rocker arms using a pin with washer welded on and securing with a  $\frac{1}{4}$ " x 2" cotter pin. Put the pipe clamp onto the outer end of the adjustment pipe and tighten it on using a  $\frac{1}{2}$ " x 1" set screw with rod handle. Install cylinder (3" x 8") or adjust-a-screw using the cylinder pin onto the cylinder block which is welded to the top of the pull hitch. Attach the shaft end of the cylinder or the other end of the adjust-a-screw between the two rocker arms in the second hole from the top using a pin with a washer and a  $\frac{1}{4}$ " x 2" cotter pin.
3. Install the right plate and spindle assembly complete with hub and bearings etc. onto the right side of the basket frame so that the flat part sits flush with the TOP on the 2" x 3" tubing on the end of the basket frame. Use only two  $\frac{5}{8}$ " x 3  $\frac{1}{2}$ " bolts and secure with  $\frac{5}{8}$ " Heavy Duty lock washers. Install the left plate and spindle assembly the same on the left side. Use  $\frac{5}{8}$ " x 3  $\frac{1}{2}$ " bolt with chain welded to head of bolt in the back hole of the plate and spindle assembly. This chain is used to attach the spring for pressure on idler arm. Now both hydraulic assemblies' should extend to the outside of the basket frame and below the 2" x 3" tubing side frames.

4. Bolt the 30 tooth sprocket onto the four pipes of the hub assembly using only four  $\frac{1}{2}$ " x 4" bolts and secure with  $\frac{1}{2}$ " Heavy Duty nuts and lock washers. Remove the hub cap, cotter pin and castellated nut from the left plate and spindle assembly, then remove the hub, both bearings, and grease seal. Put the 30 tooth sprocket, bolted to the round plate with eight pipes, over the spindle and the re-install seal, bearing hub, bearing washer, castellated nut, cotter pin and hub cap. Next install wheel and tire onto the five bolt hub using only five  $\frac{1}{2}$ " National Fine wheel bolts. Attach wheel to plate with eight pipes using only four  $\frac{1}{2}$ " x 6" bolts and securing with  $\frac{1}{2}$ " Heavy Duty nut and lock washers. Put wheel and tire on right side. Install 46 tooth sprocket onto shaft on left end of drum using  $\frac{1}{4}$ " x  $1\frac{1}{4}$ " square key and tighten set screws after lining up this sprocket with the 30 tooth sprocket using a straight edge. Install 44" No. 60 roller chain onto sprockets. Install idler arm onto side of basket frame using a  $\frac{1}{2}$ " x  $3\frac{1}{2}$ " bolt and only two Heavy Duty  $\frac{5}{8}$ " nuts locked together. These are two holes with a  $\frac{1}{2}$ " diameter in the idler arm; the most commonly one used is located closest to the tapered end. The idler sprocket is bolted onto the end of the idler arm which has the  $\frac{5}{8}$ " diameter hole and uses a  $\frac{5}{8}$ " x  $3\frac{1}{2}$ " bolt with a heavy duty  $\frac{5}{8}$ " nut, lock washer and approx. 3 flat washers. Adjust by adding or subtracting flat washers so that the idler runs in the middle of the chain. Attach 1" x 8" spring from the tapered end of the idler arm to the chain which is welded to the bolt head to put pressure with the idler sprocket onto the No. 60 roller chain.
5. Tighten and /or check all bolts and hook up to the tractor. See operating instructions before field operation.