

Michel's

INSTALLATION INSTRUCTIONS

Flip Tarp Direct Drive c/w Tension Control

PLEASE READ ENTIRE INSTRUCTIONS BEFORE BEGINNING

Step 1: Rolltube Bracket Installation

(See Figure 1-2)

Procedure: Position the driver and passenger rolltube brackets (A) along the front sides of the gravel box. The brackets should be mounted at a distance of 7" higher than the top of the box (see Figure 2).

Using a 9/32" drill bit, drill 3 holes through the predrilled holes in the brackets and through the box. Fasten the driver and passenger rolltube brackets to the box with the 5/16"x1" self threading bolts (B) provided.

Note: If the brackets are to be mounted to the wood side boards then drill 5 holes through the predrilled holes in the bracket and through the wood side boards. Fasten the brackets to the wood side boards with the 5/16"x2-1/2" hex bolts, 3/8" flat washers, and 5/16" nylon lock nuts provided.

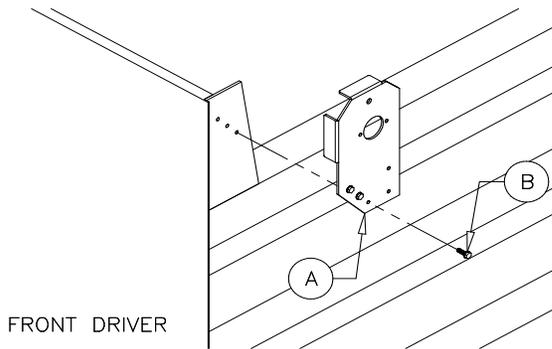


Figure 1

Step 2: Rolltube Installation

(See Figure 3-4)

Procedure: Slide the rolltube (C) through the large pocket at the front of the tarp. Insert the 1" rolltube end through the large hole in the passenger side rolltube bracket. Slide the round flanges (F) and the UC205-16 self aligning bearing (G) on the rolltube end (C). Fasten the flange to the roll tube bracket with the 5/16" x 1" carriage bolts (J) and 5/16" nylon lock nuts. Next slide the electric motor into the rolltube and bolt to the rolltube bracket with 5/16"x3/4" bolts (N) and lock washers (O). Center the 2" pipe of the rolltube between the boards and then align the nearest hole in the rolltube with motor and secure with a 5/16"x2-1/4" bolt (M) and nylon lock nut (L). Tighten the set screw in the UC205-16 bearings (G).

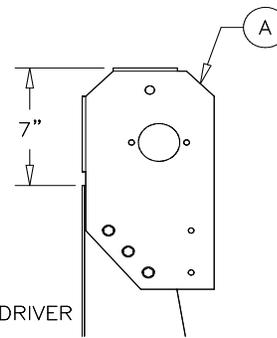


Figure 2

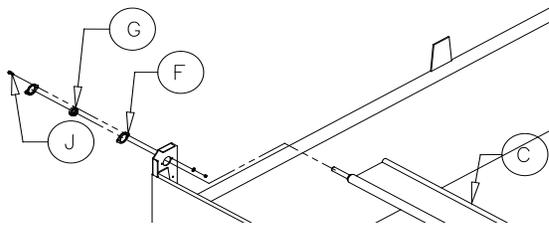


Figure 3

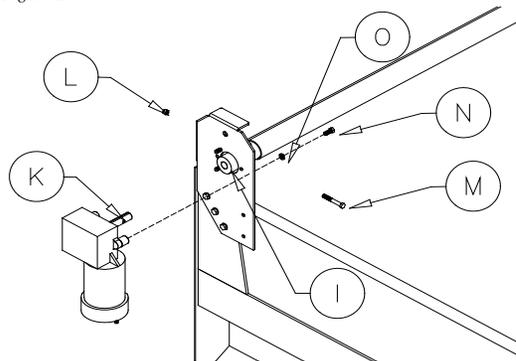


Figure 4

Step 3: Tarp Installation

(See Figure 5)

Procedure: Center the tarp on the rolltube between the boards. Remove any creases in the tarp along the rolltube. Position a pvc front clamp (D) on both edges of the tarp material. Fasten both tarp clamps to the tarp and the rolltube with the #10-24x3/4" wafer head screws (E) provided. Center the remaining two pvc front tarp clamps to the tarp material and rolltube.

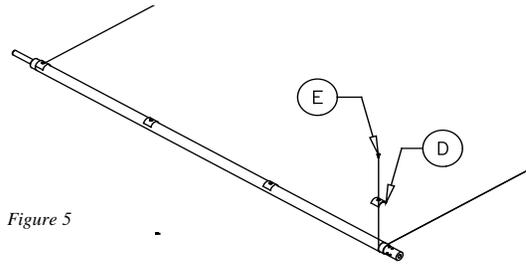


Figure 5

Step 4: Electrical Installation

(See Figure 6-7)

Note: Apply the supplied Dielectric Lubricant to all wire connections when each wire is hooked up. The Dielectric Lubricant will help to prevent corrosion.

Procedure: Mount the 2 pole connector on the front of the trailer. **Note: If tarp is not going on a trailer, the 2 pole connector is not needed.** Run #6 double strand wire from the motor posts down the front, back to the hinge point of the box, and along the frame to the 2 pole connector. Secure the wire with the wire clips and lags provided. Install the motor cover on the motor and secure with (2) #10x1/2" screws.

Mount the rocker switch in the dash or an obstruction free area in the truck cab. Mount the solenoid near the cab and the battery of the truck. Run #6 double strand wires from the solenoid along the truck frame to the 2 pole male connector at the back of the truck. Connect the motor wires to the "IN" & "OUT" on the solenoid. Install a black rubber boot on each wire. If not on a trailer, the #6 double strand wire would run straight from the motor to the solenoid. Run #6 double strand wire from the solenoid to the battery. Connect the positive red wire to the "+" post on the solenoid along with a red rubber boot and connect the negative wire to the "-" post with a black rubber boot. Install a second 40amp circuit breaker in line with the positive wire.

Run 14G-3 wire from the solenoid to the switch in the cab. The wires at the switch each get 14G female connectors crimped on. At the solenoid the 14G-3 wire gets (2) 14G female connectors and (1) 14G-1/4" ring terminal crimped on. The ring terminal is mounted on the battery positive (+) post of the solenoid. **NOTE:** If the motor runs backwards, switch the (2) outside wires on the switch. Raise and lower the hoist to make sure that the wires are free from obstructions.

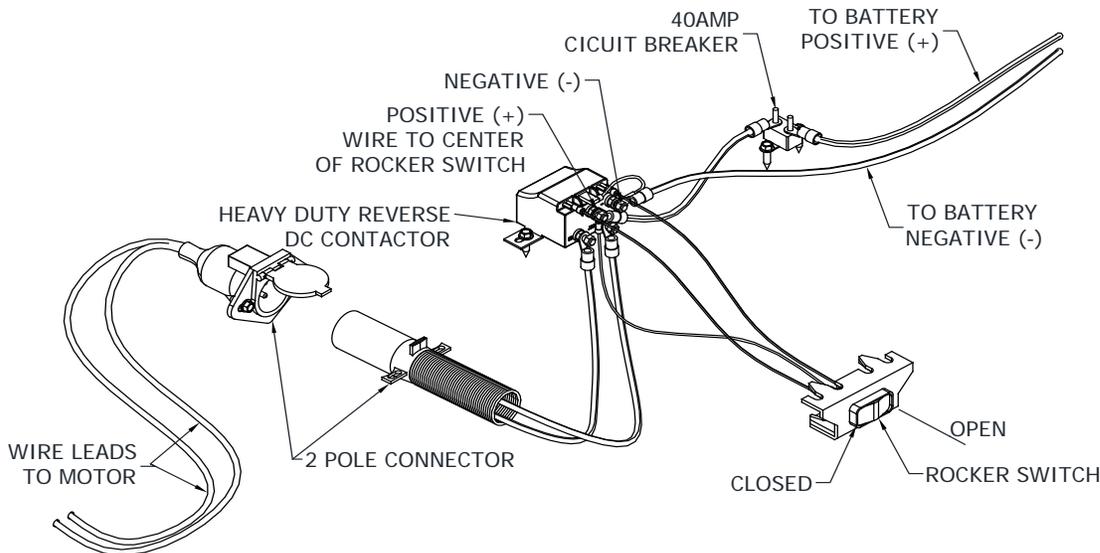


Figure 7

Step 6: Pivot Arm Installation

(See Figure 8-19)

Procedure:

Measure from Point A (see Figure 8) to a point on the lower inside rib of the box that is close to the pivot point (see Figure 10). Mark this point and record the distance as X. Using distance X, measure from Point B (see Figure 9) to a point on the lower inside rib of the box (see Figure 10). Mark this point.

Divide the distance between the first and second mark by two and mark this point as the pivot point (see Figure 10).

Divide the distance between the first and second mark by two and mark this point as the pivot point (see Figure 10).

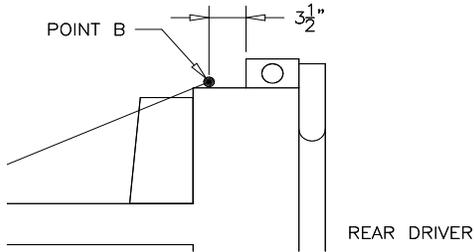


Figure 9

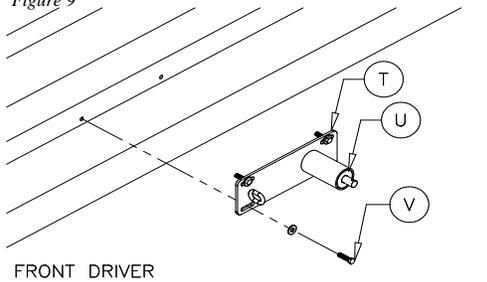


Figure 11

Match the pivot point up with the 3/4" pin sticking out on the pivot arm bracket (T).

Using a 3/8" drill bit, drill through the center of the slots in the bracket (T) and through the box wall. Fasten the pivot arm bracket to the box with the 3/8"x1-1/2" hex bolt (V), 3/8" flat washers, and 3/8" nylon lock nuts provided (see Figure 11).

Slide the pivot arm elbow (S) into the top pivot arm (G)

Figure 12. Drill a 3/8" hole through the top pivot arm and pivot arm elbow about 4" in from the bottom edge of the top pivot arm. Bolt together with a 3/8"x1-3/4" bolt (T) and 3/8" nylon lock nut (U). Do all four at the same time and there are lefts and rights.

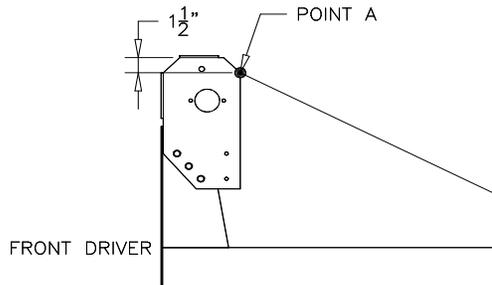


Figure 8

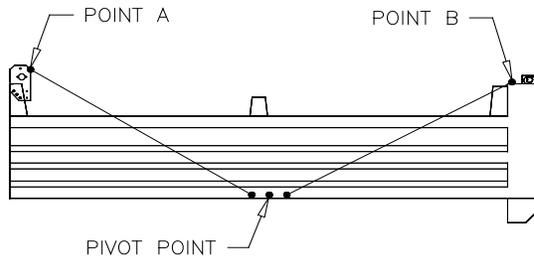


Figure 10

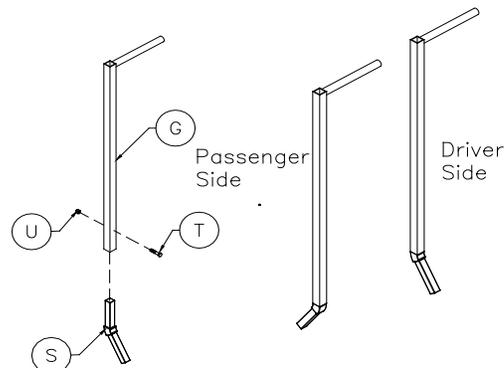


Figure 12

Measure the distance from Point A (Figure 8) to the center of the 3/4" pin on the pivot arm bracket (T). Record this as "Distance C". Lay the bottom pivot arm on the ground with the mounting flat on the top side of the tubing. Place one of the top pivot arm on the bottom pivot arm so the remaining cast elbow is in line with it. Have the 1" pipe sticking up. Slide the top pivot arm along the bottom arm until the distance from the center of the 1" pipe to the center of the mounting hole is the same as the Distance C.

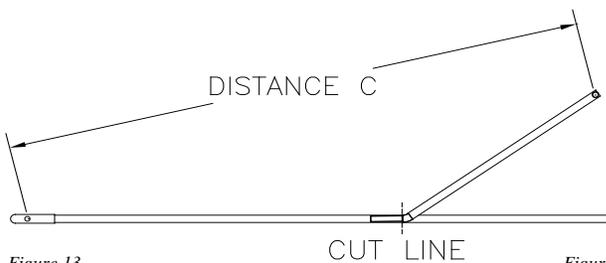


Figure 13

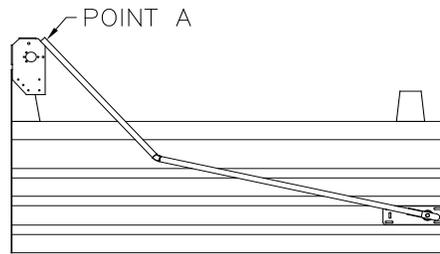


Figure 14

Step 6: Pivot Arm Installation Con't

Mark the bottom pivot arm inline where the 1" part of the elbow ends. Double check your measurements before cutting at your mark.

Once cut slide the elbow into the bottom pivot arm. Place the bottom pivot arm on the pivot arm bracket and position like Figure 14. Make sure that the 1" pipe is sitting at Point A. If not position correctly, move the elbow in and out until properly positioned. Drill a 3/8" hole through the bottom pivot arm and elbow. Drill the 3/8" hole approximately 4" down from the 1-1/4" part of the elbow.

Slide the helical torsion spring (B), bottom pivot arm (C), and 3/4" flat washer (D) on the pivot arm end (U). Insert and lock the cotter pin (E). Slide the tension control arm pivot mount (F) onto the bottom pivot arm (C).

Position the bottom pivot arm (C) so it is hooked in the helical torsion spring (B) (see Figure 16). Repeat the above procedure for the opposite side of the box.

Slide the rear pivot arm crossmember (F) through the rear tarp pocket. Position the rear pivot arm crossmember at Point B (see Figure 9).

Insert the 1" OD. pipe on the top pivot arm into the rear pivot arm crossmember (F).

Repeat for the opposite side of the box.

Note: The 1"OD. pipe welded to the top pivot arm (G) may have to be shortened.

Adjust the rear pivot arm crossmember (F) and the pivot arm brackets (N) so they are at Point B (see Figure 9).

Note: Make sure that the distance of the bottom pivot arms are equal.

Rotate the rear pivot arm crossmember so that the crossmember guides (I) are approximately 1/2" above the top of the box. Using a 5/16" drill bit, drill through the pivot arm crossmember and top pivot arm (G). Secure the pivot arm crossmember to the top pivot arms with the 5/16"x1-3/4" hex bolts (H) and 5/16" nylon lock nuts provided (see Figure 17/18).

Note: Allow a great enough distance between the box wall and the pivot arm, in order to install the pivot arm guides on both sides of the box (see Step 7).

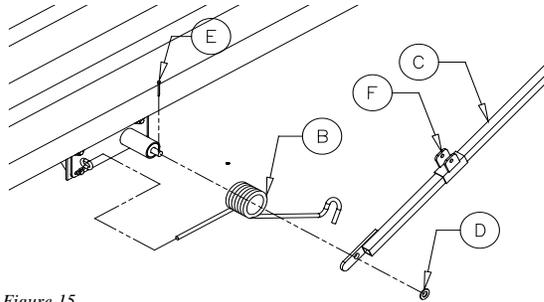


Figure 15

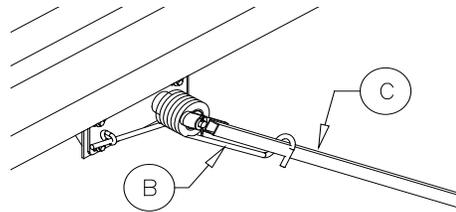


Figure 16

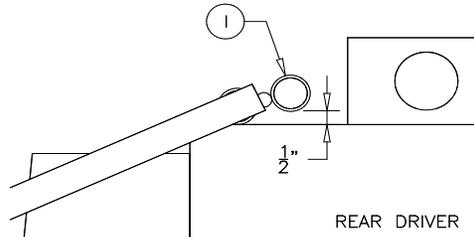


Figure 17

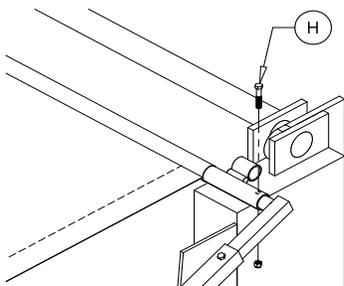


Figure 18

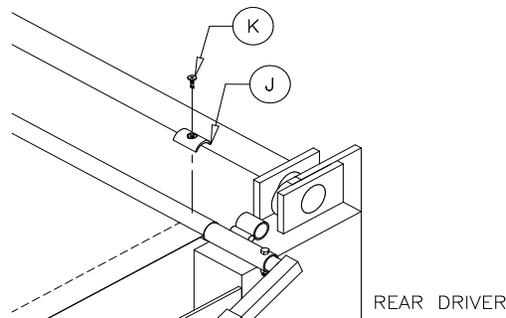


Figure 19

Center the rear tarp pocket on the rear pivot arm crossmember. Position a pvc rear tarp clamp (J) on both edges of the tarp material. Fasten both tarp clamps to the tarp and rear pivot arm crossmember with the #10-24x3-4 wafer head screws (K) provided (see Figure 19).

Step 7: Pivot Arm Guide Installation

(See Figure 20)

Note: The pivot arm guides (L) (see Figure 20) prevent the tarp from shifting to either side of the box when the tarp is in closed position.

Procedure: Close the tarp. Place a pivot arm guide (L) along one of the ribs in the box wall (see Figure 20). Make sure the guide is aligned with the pivot arm (C). Mark the position of the pivot arm guide. Using a 11/32" drill bit, drill two holes into the box wall. Secure the pivot arm guide to the box wall with the 3/8"x1-1/4" self threading bolts provided. Repeat the above procedure for the opposite side of the box.

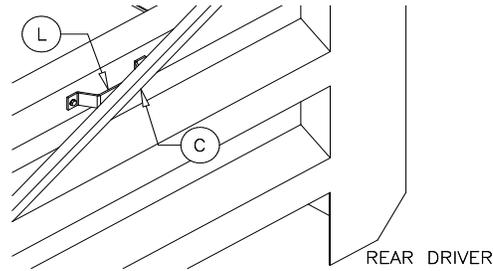


Figure 20

Step 7: Tension Control Arm Installation

(See Figure 21-25)

Point C is close to the front of the box that will be behind the chain and has a clear view across the width of the box.

From Point C measure to point on the bottom pivot arm close to the center of the box. Mark this point and record the distance. With the same distance as before measure from Point D and mark on the bottom pivot arm. Point D is at the outside edge of the 1" pipe on the top pivot arm. Take the distance between your two marks and divide by 2. This will give your second pivot point.

Double check the distance from pivot point 2 to point C and D to make sure they are the same.

Position the tension control arm pivot mount so the holes line up with the pivot point 2.

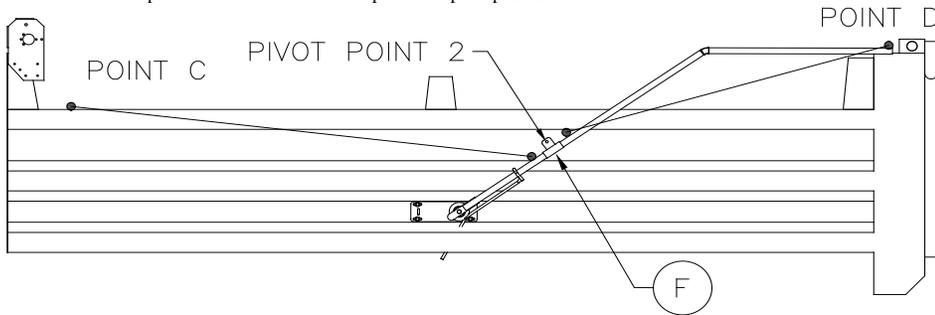


Figure 21

Using clamps secure the position of the tension control arm pivot mount on the bottom pivot arm.

Measure the distance from Point C (Figure 21) to the center of the hole of the tension pivot arm bracket (F). Record this as "Distance Z". Lay the bottom tension control arm (N) on the ground with the hole facing up. Place one of the top pivot arm on the bottom tension arm so the remaining cast elbow is in line with it. Have the 1" pipe sticking up. Slide the top pivot arm along the bottom tension arm until the distance from the center of the 1" pipe to the center of the mounting hole is the same as the Distance Z.

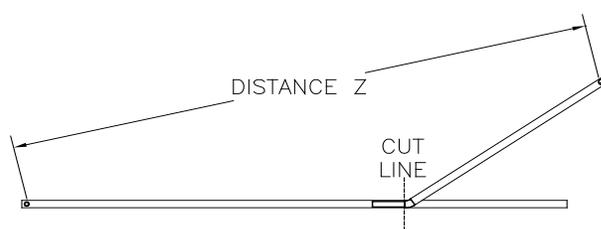


Figure 22

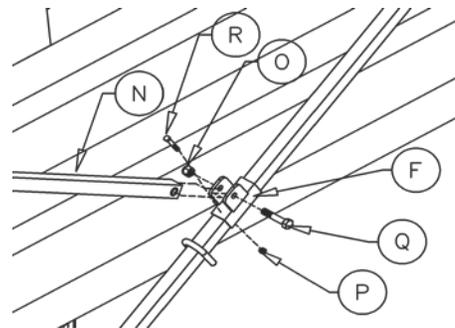


Figure 23

Mark the bottom pivot arm in line where the 1" part of the elbow ends. Double check your measurements before cutting at your mark.

Slide the top arm assembly into the bottom tension control arm and secure to the tension control pivot arm mount with the 1/2" bolt and nut.

Carefully swing the tension control assembly to the front of the box making sure that it doesn't come into contact or interfere with anything else. Make sure the top pivot arm pipe lands at Point C and D.

If there is contact or interference with the arms adjust the position of the pivot mounts and the stick out length of the bottom tension control arms.

Also make sure that the tension control crossmember can go across the box without hitting anything. It will slide on top of the 1" pipe of the top pivot arm.

With it all positioned properly drill a 5/16" hole through the bottom of the tension control arm pivot mount (F) and the bottom pivot arm and secure together with 5/16"x2" bolt (R) and lock nut (P).

Secure the elbow (S) and bottom tension control arm (N) together by drilling a 3/8" holes through them 4" down from the elbow (see figure 13). Fasten together with 3/8"x1-3/4" bolt and lock nut with the head of the bolts to the inside of the angle.

Repeat for other side of box. Measure the locations and dimensions off the existing side to mount the opposite side assembly to get them mounted identically.

Slide the tension control arm crossmember (1-1/4" OD) into the top pivot arms. Center the tension control arm crossmember between the top tension control arms. Drill through the top tension control arm and crossmember and secure together with 5/16"x1-3/4" bolt and nylon lock nut. Once properly positioned crank the tarp up to make sure nothing else gets in the way. With the tarp completely rolled up, the top tension control arm should be a little longer so it sits a little higher/closer to the front than the standard top pivot arm.



Figure 24

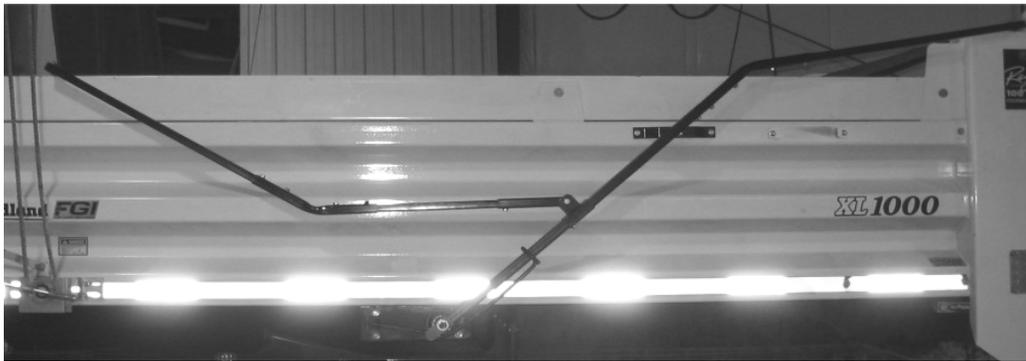


Figure 25

Warranty Michel's Industries warrants their products for a period of one year from date of purchase. Any parts returned to Michel's Industries LTD. Will be shipped prepaid and will be returned F.O.B. St.Gregor, Sk. Canada. We will not assume responsibility for shipping, labor or travel expenses. Please Note: We reserve the right to make improvements, therefore specifications are subject to change without notice.

FOR INSTALLATION ASSISTANCE PLEASE CALL COLLECT (306) 366-2184

Michel's Industries LTD.
P.O. Box 119
St.Gregor, Sk. Canada S0K2P0
TEL. (306) 366-2184 FAX (306) 366-2145