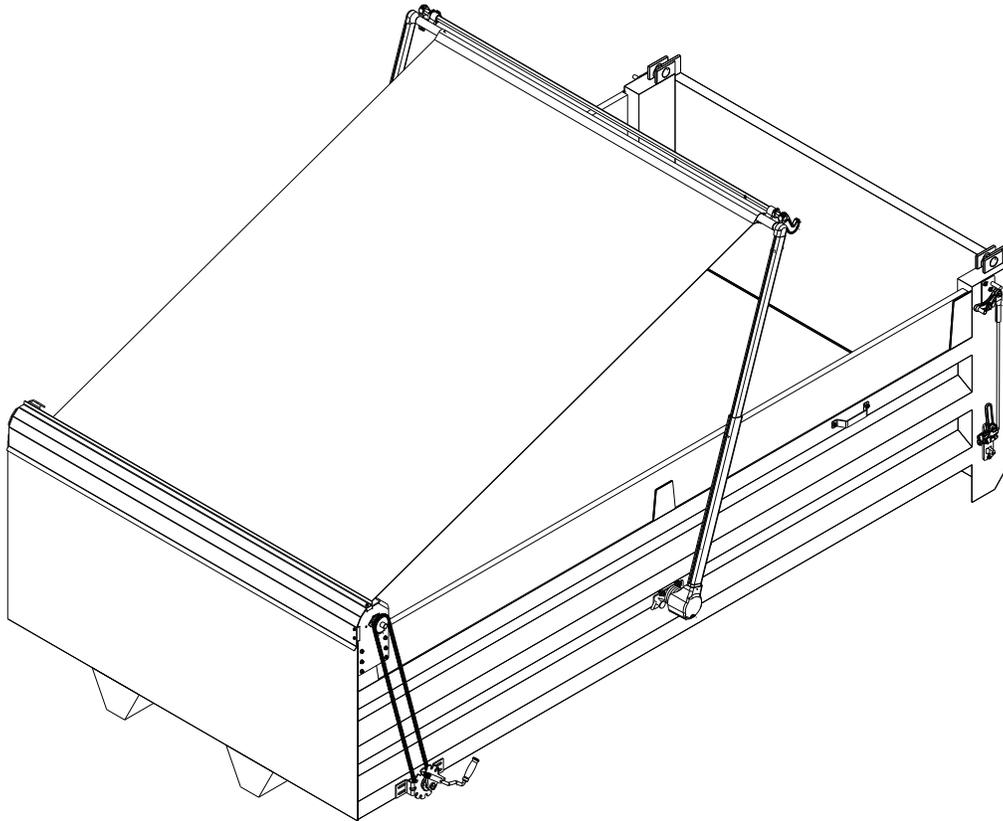


# *Michel's*

## *Dura Flip Manual* *23' - 27'*



*Installation Instructions – Page 1-8*

*Warranty – Page 8*

*Operating Instructions – Page 9*

*Maintenance Guidelines – Page 9*

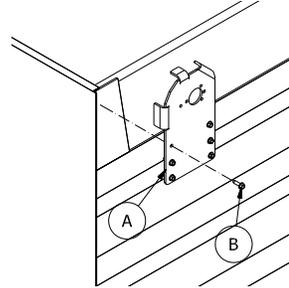
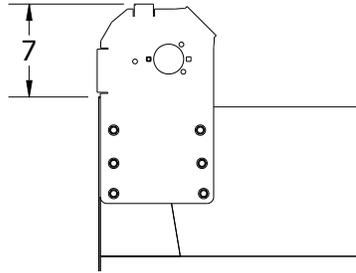
*Parts Break Down – Page 10-11*

**PLEASE FORWARD ONTO CUSTOMER**

## *Installation Instructions*

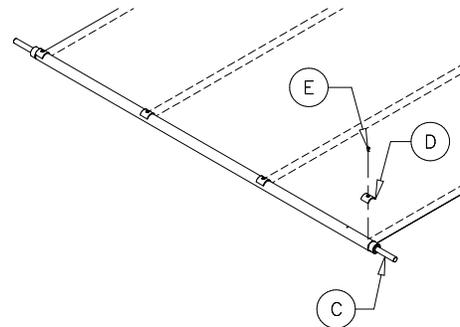
### **Step 1: Rolltube Bracket Installation**

- Position the driver and passenger rolltube bracket (A) along the front side of the gravel box. The brackets should be mounted at a distance 7" higher than the top of the box.
- Using a 11/32" drill bit, drill through the predrilled holes in the brackets and through the box.
- Fasten the brackets to the box with 3/8"x1-1/4" self threading bolts (B).



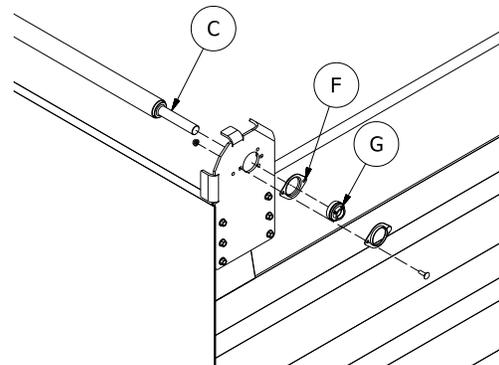
### **Step 2: Tarp Installation**

- Slide the rolltube (C) through the large pocket at the front of the tarp.
- Center the tarp material on the rolltube. Remove any creases in the tarp along the rolltube.
- Position a large pvc tarp clamp (D) on both edges of the tarp material.
- Fasten both tarp clamps to the tarp and rolltube with the #10-24x3/4" wafer head screws (E).
- Center and fasten 2 more large pvc tarp clamps to the tarp material and rolltube.



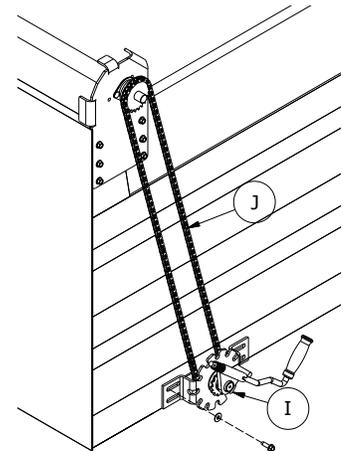
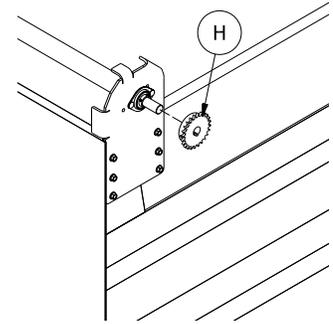
### **Step 3: Rolltube Installation**

- Insert the rolltube ends (C) through the large hole in the driver and passenger side rolltube brackets.
- Slide the round bearing flanges (F) and the UC205-16 self-aligning bearing (G) on the rolltube end.
- Fasten the flanges to the rolltube bracket with 5/16"x1" carriage head bolts and 5/16" nylon lock nuts.
- Center the rolltube between the driver and passenger brackets. Tighten the setscrews in the bearing collars.

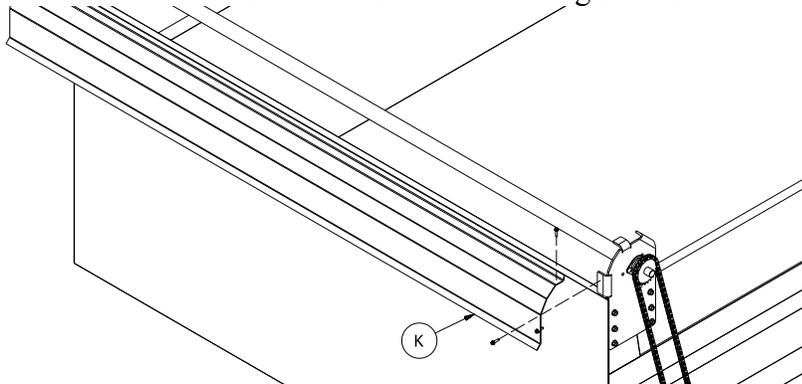


**Step 4: Crank Installation**

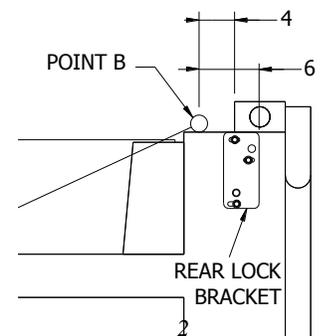
- Slide the #40x36 sprocket (H) on the rolltube end.
- Place the #40 roller chain (J) on the #40x36 sprocket and through the clutch crank handle assembly.
- Secure the chain together with the connector link.
- Hang the clutch crank assembly by the chain. Apply downward force to the clutch crank to stretch the chain out.
- Place the clutch crank handle assembly along the bottom rail of the trailer.
- Mark the slots of the crank assembly onto the box.
- Using a 11/32" drill bit, drill four holes through the box at your marks. Drill on the right side of the slots.
- Fasten the crank assembly to the box with 3/8"x1-1/4" self-threading bolts and washers.
- Align the #40x36 sprocket on the rolltube end with the sprocket on the crank handle assembly.
- Tighten the 5/16" set screws in the sprocket and then loosen off to provide a mark on the rolltube end.
- Slide the sprocket on the rolltube end and drill 5/16" holes at your marks. Drill approximately 1/4" deep.
- Slide the sprocket back, align the setscrews with the holes you drilled and tighten the setscrews.
- Place the clutch crank warning decal on the trailer near the crank.

**Step 5: Front Hood Installation**

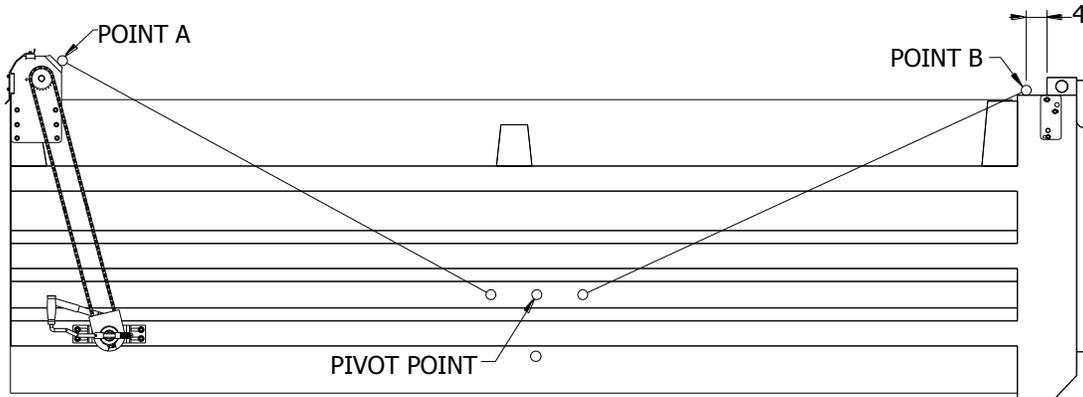
- Place the front hood (K) on the rolltube brackets and center it.
- Secure to the rolltube brackets with 1/4"x1" lag screws into the tabs.

**Step 6: Pivot Arm Installation**

- Measure from Point A to a point on the lower inside rib of the box that is close to the pivot point of the box.
- Mark this point and record the distance as X.
- Using distance X, measure from Point B to a point on the lower inside rib of the box and mark it.

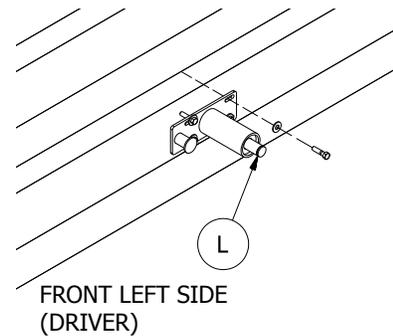


- To install the rear lock there needs to be 6" of room behind Point B. (shown in figure to the right)
- Divide the distance between the first and second mark by two and mark this point as the pivot point.

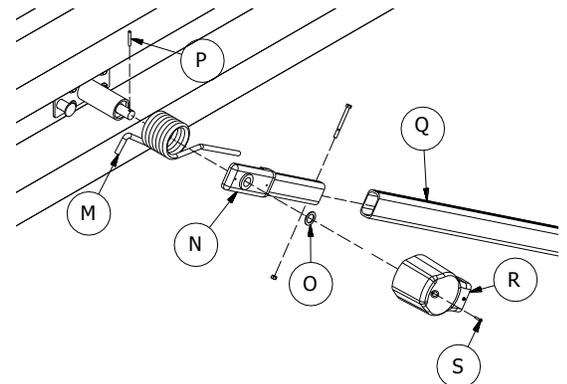


- Align the shaft on the pivot arm bracket (L) with the pivot point.
- Mark the center of the slots on the box.
- Drill 3/8" holes through the box at your marks.
- Fasten the pivot arm bracket to the box with 3/8"x1-1/2" bolts, 3/8" flat washers and 3/8" nylon lock nuts.

**Note:** If your are mounting the pivot arm bracket into the bottom tubing use a 11/32" drill bit and secure with 3/8"x1-1/4" self threading bolts.



- Slide the helical torsion spring (M) on the pivot arm bracket and hook the spring on the catch.
- Place the bottom cast pivot arm (N) onto the shaft and have the spring end in the slot of it. Secure it to the pivot arm bracket with a machinery bushing (O) and roll pin (P).
- Slide the aluminum bottom pivot arm (Q) (largest tubing) over the bottom cast pivot arm and spring. The end you slide on is the side with the 5/16" hole 8" in from the edge.
- Secure together with a 5/16"x3-1/2" bolt and nylon lock nut through the predrilled holes.
- Place the spring cover (R) on the bottom cast pivot arm. Align the 2 holes and secure together with #10x1/2" self-tapping screw (S).
- Place the Dura Flip Tarp sticker on the bottom aluminum pivot arm near the bottom of it.
- Unroll the tarp to the rear of the box.
- Slide the rear crossmember (V) in the rear pocket of the tarp and position at Point B.



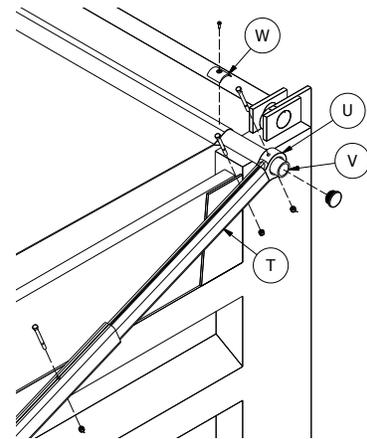
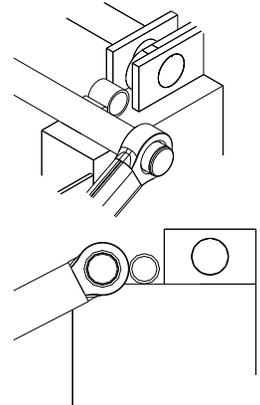
- Slide the rear crossmember holders (U) into the top aluminum arm (T). Secure together with 5/16"x3" bolt and nylon lock nut through the predrilled holes.
- Slide the aluminum top pivot arm into the bottom arm.
- Rotate the arms up and slide the rear crossmember into the rear crossmember holder.

**Note:** The top aluminum arm may need to be shortened.

- Repeat for the other side of the box and proceed to Step 6B.

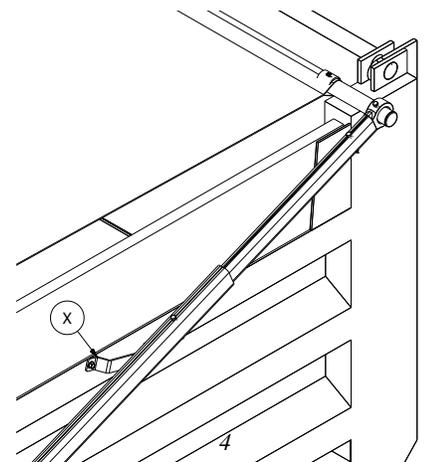
### Step 6B: Rear Crossmember / Tarp Installation

- Align the rear crossmember (V) and top arms so they are at Point B. Make sure the top aluminum arms are protruding out the bottom arms the same.
- The rear crossmember should be sitting so both large tubing are sitting on the trailer.
- The rear crossmember will only have the extra set of tubing welded on if the rear lock option is to be installed.
- Using a 5/16" drill bit, drill through the predrilled hole in the bottom arm and the top pivot arm.
- Secure the arms together with 5/16"x3-1/2" bolts and nylon lock nuts.
- Align the pivot arms so they are parallel with the side of the box.
- Position the rear crossmember so it protrudes out of the rear crossmember holder on one side by 3/4".
- Drill through the hole in the crossmember holder and through the rear crossmember with a 5/16" drill bit.
- Secure together with a 5/16"x3-1/2" hex bolt and nylon lock nut.
- On the other side cut the rear crossmember so it just protrudes past the rear crossmember holder by 3/4". Secure together like the other side.
- Press the plastic plugs into the open ends of the rear crossmember.
- If your crossmember has the extra tubing's, center it with the box and cut equally off each side so it sticks out 3/4" on each side.
- Center the rear pocket of the tarp on the rear Crossmember (V).
- Position a small pvc tarp clamp (W) on both edges and secure together with #10-24x3/4" wafer head screws.



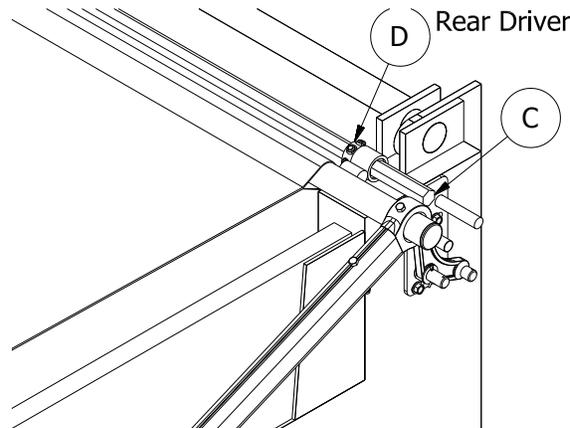
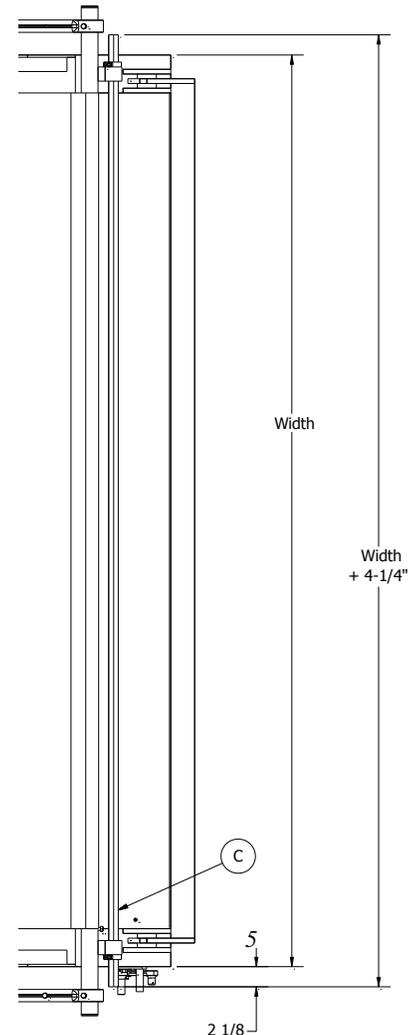
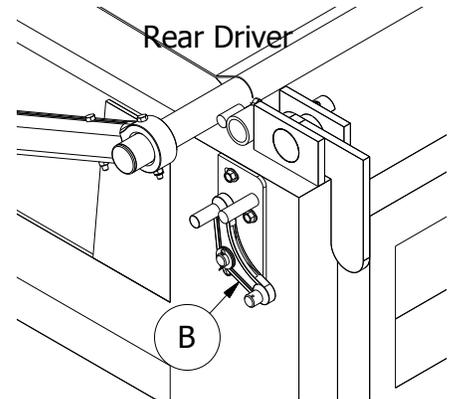
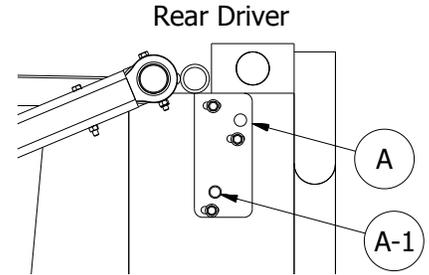
### Step 7: Pivot Arm Guide Installation

- The pivot arm guides (X) prevent the tarp from shifting to either side of the box when closed.
- Close the tarp and place a pivot arm guide along one of the ribs in the box wall against the inside of the aluminum arms.
- Mark the 2 holes on the box and drill a 11/32" at your marks.
- Secure the pivot arm guides to the box with 3/8"x1-1/4" self threading bolts.
- Repeat for the other side of the box.

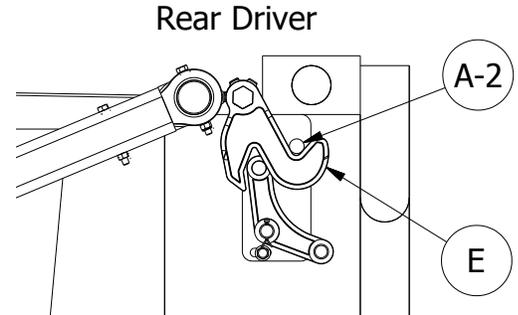


**Step 8: OPTIONAL Rear Lock Installation**

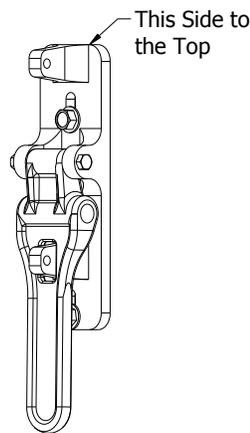
- Mount the rear driver lock bracket (A) to the back post of the trailer shown here.
- Place the bracket so the front edge of the bracket is inline with the center of the short pipes welded on the rear crossmember and the top of it is the same height as the bottom of the pipes.
- Mark your holes in the center of the slots and drill an 11/32" at your marks.
- Secure the rear driver lock bracket to the trailer with 3/8"x1-1/4" self-threading bolts.
  
- Slide the plastic latch (B) onto the mounting pin (A-1) (shortest one with a hole in it) on the driver rear bracket. The side with the collar on it goes to the inside so both posts stick outwards from the trailer. Secure on with a 3/4" machinery bushing and 1/8" cotter pin.
  
- Measure the width of the box where you will be installing the lock components.
- Cut the aluminum hex shaft (C) at the width of the box 4-1/4".
- Slide the shaft into the rear crossmember pipes.
- Slide the hex locking collars (D) onto the hex shaft between crossmember pipes and into the pipes. Slide them on so the setscrews are on the same faces of the hex shaft.
- Center the hex shaft so 2-1/8" sit out each side of the box and tighten the setscrews in the hex collars preventing it from moving side to side.



- Slide a rear hook (E) onto each end of the hex shaft so they are flush to ends and are positioned the same. Secure the rear hooks to the hex shaft by tightening the setscrews in them.
- Rotate the hex shaft so the rear hook locks under the pin (A-2) on the driver bracket. You may need to adjust the driver bracket so the rod sits in the hook as shown here.
- Have the latch so the largest post on it is pushing up against the rear hook as shown here.
- Place the plastic rod connector (F) onto the latch and secure with  $\frac{3}{4}$ " machinery bushing and  $\frac{1}{8}$ " cotter pin.
- Place the short leg of the aluminum connecting rod (G) into the handle assembly (H). Use the lynch pin (I) to keep the handle assembly in the locked position shown here.

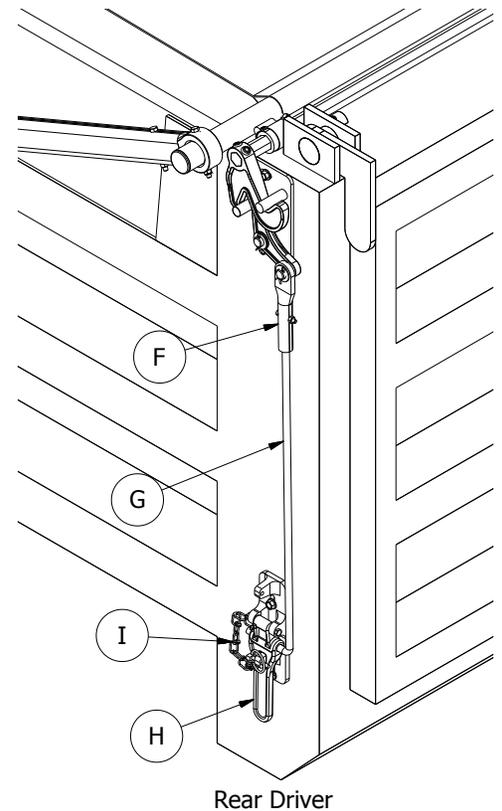


#### Locked Position

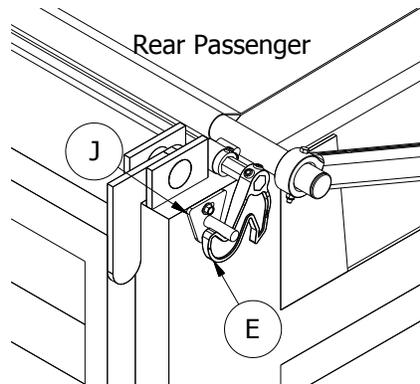


Handle Assembly (H)

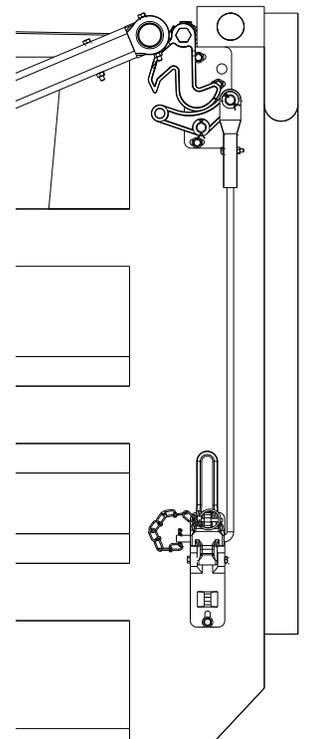
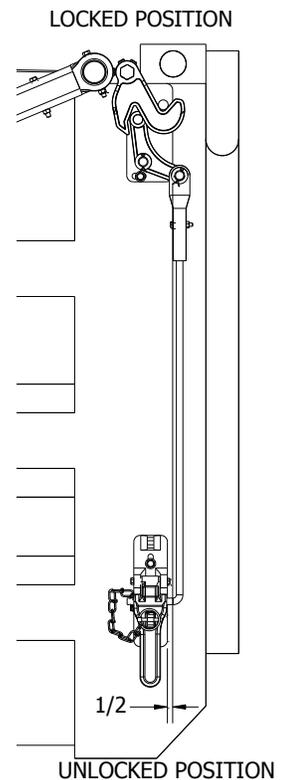
- Next slide the long leg of the aluminum connecting rod into the rod connector while having the locking handle flush up against the trailer. The aluminum rod may need to be shortened.
- With the aluminum connecting rod at the necessary length secure it to the rod connector. Make sure the aluminum rod is all the way into the rod connector
- Drill a  $\frac{1}{4}$ " hole through both of them and bolt together with a  $\frac{1}{4}$ "x1-1/2" bolt and nylon lock nut. The aluminum connecting rod has to be positioned so the short leg is running parallel with the side of the box. Drill the hole through them so the bolt runs the length of the box preventing it from rubbing the side of the trailer.



- Once secured make sure the hook is fully locked under the locking pin with the latch pushing up against it and place the handle assembly against the side of the box. The back face of the latch handle should be 1/2" in from the back face of the driver lock bracket.
- Mark the bottom of the top slot in the handle assembly
- Drill a 11/32" hole at your mark and secure the handle assembly to the trailer with a 3/8"x1-1/4" self threading bolt.
- Remove the lynch pin from the handle allowing the handle to rotate up.
- With the handle assembly sitting vertically drill a 11/32" hole at the bottom of the bottom slot and secure with a 3/8"x1-1/4" self threading bolt.
- Rotate the handle down so the hook locks and you can put the lynch pin back in the handle preventing it from unlocking. You should have to apply a little force to lock the handle and should snap locked when over centered. If this doesn't happen, loosen the (2) bolts securing the handle to the trailer and move the handle downwards and retighten the bolts. You do not want to have excess tension on the handle when locking it.
- With the driver side hook locked under the pin, place the passenger side lock bracket (J) against the trailer so the locking pin sits in the hook like the driver side.
- Mark the center of the top slot and drill a 11/32" hole at your mark.

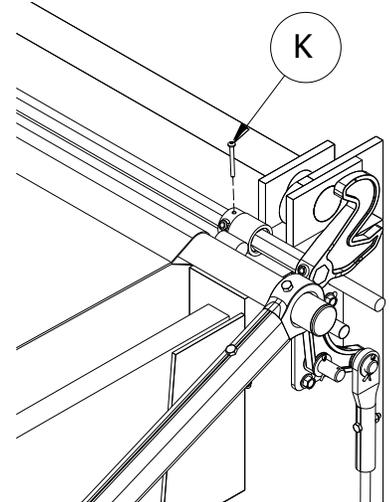


- Go to the driver side and unlock the tarp but rotating the handle up and using the lynch pin to secure it in the unlock position.
- Secure the bracket to the trailer with a 3/8"x1-1/4" self-threading bolt. Have the top of the bracket running parallel with the top of the trailer.
- Drill an 11/32" hole in the middle of the bottom slot and secure with a 3/8"x1-1/4" self threading bolt.



- Lock the hooks under the locking pins and adjust the passenger side if necessary.
- With the lock working properly, bolt the hex locking collars to the hex shaft. Drill a 13/64" hole through the pre-drilled holes in the locking collars and hex shaft.
- Secure together with the #10x2" machine screw and nylon lock nut.

**Note:** You may want to lift the rear crossmember up and rotate the hex shaft to allow for easier drilling and installing and rotate back once done.



**Note:** For the lock to work properly the pivot arm guides need to be installed and provide very little side to side movement when closed so the rear lock components line up properly.

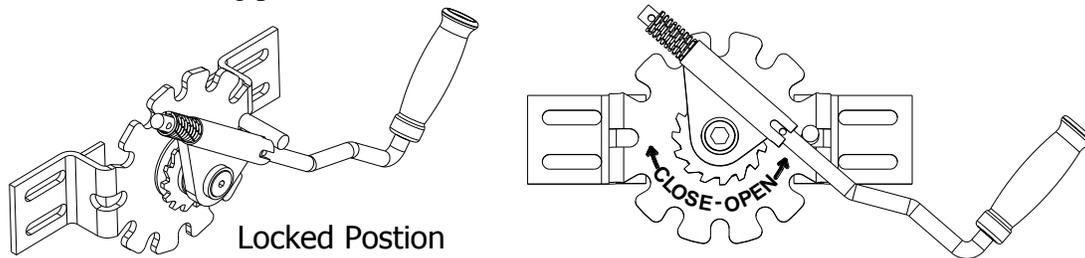
**PLEASE PHONE MICHEL'S INDUSTRIES FOR ASSISTANCE (306) 366-2184.**

## *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 by the customer 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.

## *Operating Instructions*

**Opening Tarp** – To open the tarp so it is fully rolled up on the front rolltube to allow product to be dumped into the box, first unlock the rear lock if there is one installed. If installed go to the rear of the trailer and remove the lynch pin holding the handle in the locked position. Rotate the handle up and use the lynch pin to secure the handle in the unlocked position. Go back to the front of the trailer and the crank handle must be pulled outward from the base to unlock the locking pin. Once it is pulled out far enough that the locking pin clears the base, the crank handle must be rotated 90 degrees counter clockwise into the unlocked position. The handle will now be facing away from the trailer and is ready to be cranked open. Crank the handle counter clockwise as the sticker on the base shows. Once the clutches tighten up, the tarp will begin to open. Keep cranking until the tarp is completely open. The handle can now be rotated into the locked position. The locking pin should be locked into the nearest notch on the base.

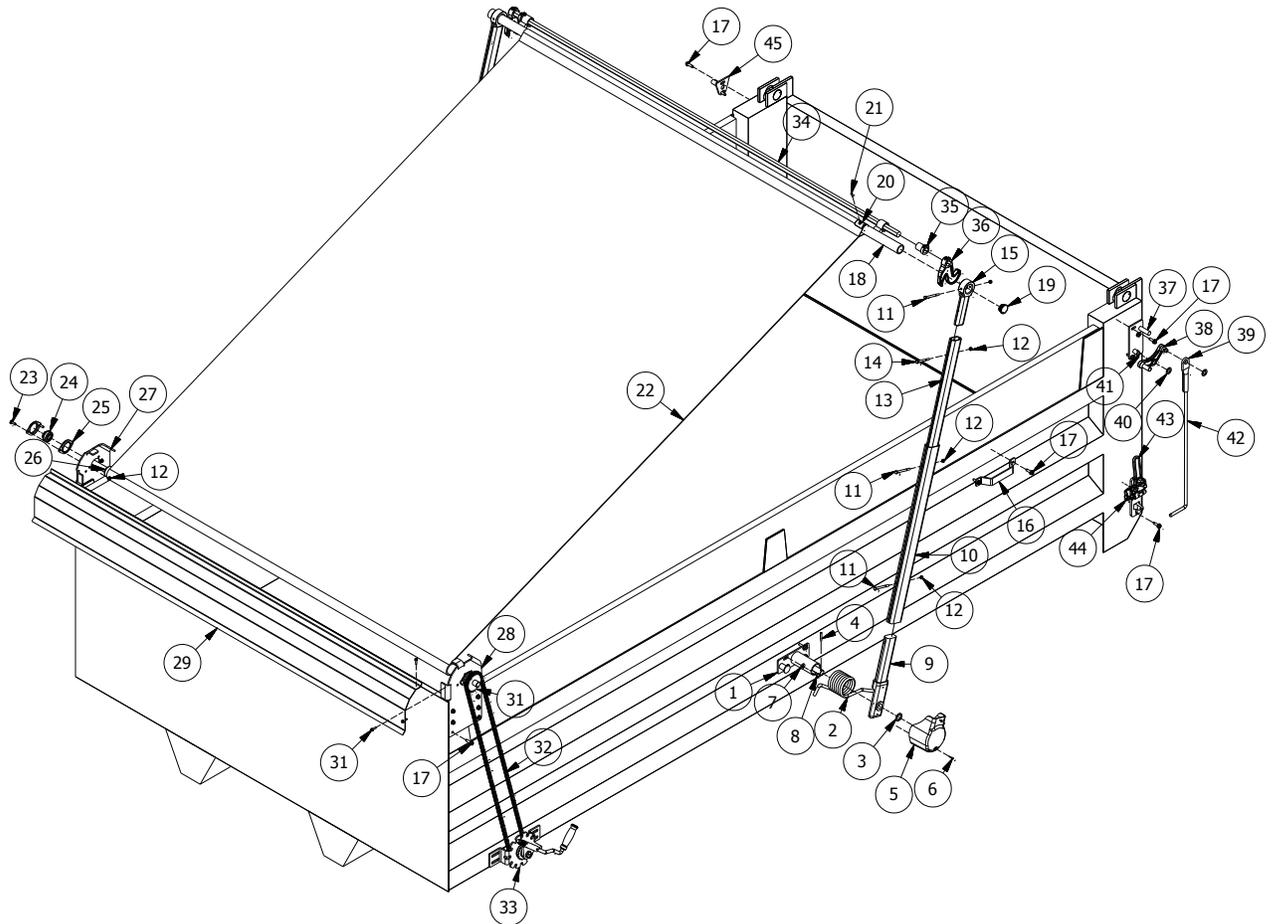


**Closing Tarp** – Pull handle outwards to unlock crank handle and rotate to the unlocked position. Crank the handle clockwise as the sticker on the base shows. The clutches will release and the tarp will begin to close. Keep cranking until tarp is completely closed. Once the rear crossmember is sitting on the top rail at the rear of the trailer, go to the rear and lock the tarp down if a lock is installed. If installed remove the lynch pin from the handle and rotate the handle downwards. This should cause the hooks to lock under the locking pins on the side of the box. Secure the handle in the locked position with the lynch pin. Go to the front and remove any slack in the tarp by cranking it counter clockwise. The handle can now be rotated and locked into the nearest notch on the base.

## *Maintenance Guidelines*

- Inspect the tarp for rips and tears.
- Make sure all bolts are tight and none are missing.
- Inspect the springs for breakage or stretching.
- Examine the bearings on the front shaft for excessive play and wear.
- Replace all worn and/or broken parts.

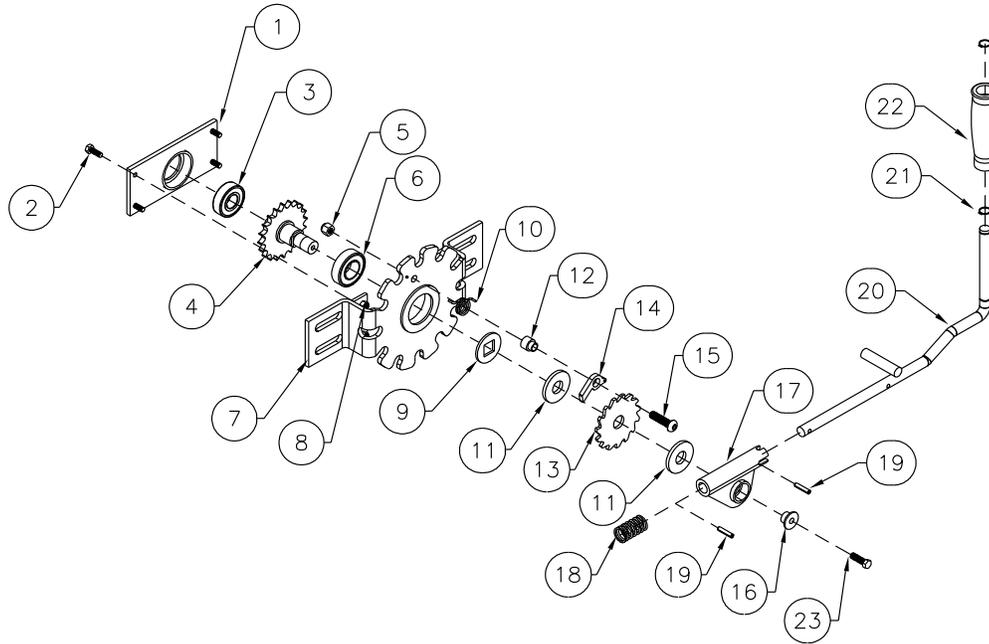
## Parts Break Down



1	23+ DURA PIVOT ARM BRACKET	0002-061051	N/A	NEOPRENE MATERIAL	FR02-072002
2	9/16" DURA SPRING - DRIVER	0117-003003	N/A	YELLOW CANVAS MATERIAL	FR02-072003
N/A	9/16" DURA SPRING - PASSENGER	0117-003004	23	5/16"X1" CARRIAGE HEAD BOLT	0105-009102
3	1-1/4" MACHINERY BUSHING	0101-001408	24	UC205-16 SELF ALIGNING BEARING	0115-000008
4	1/4"X2" ROLL PIN	0110-000021	25	52mm FLANGETTE	0115-001000
5	PLASTIC SPRING COVER	0113-000048	26	8' FRONT ROLLTUBE	0002-040308
6	#10X1/2" SELF TAPPING SCREW	0106-000032	N/A	8 6" FRONT ROLLTUBE	0002-040311
7	3/8" FLAT WASHER	0101-001002	27	DURA ROLLTUBE BRACKET - PASS	0002-040502
8	3/8"X1-1/2" HEX BOLT	0105-000204	28	DURA ROLLTUBE BRACKET - DRIVER	0002-040501
9	23+ BOTTOM CAST PIVOT ARM	0002-061014	29	8' STD DURA FRONT HOOD	0002-040503
10	BOTTOM ALUMINUM ARM - 10'	0002-061007	N/A	8' 6" STD DURA FRONT HOOD	0002-040504
11	5/16"X3-1/2" HEX BOLT	0105-000112	30	1/4"X1" LAG SCREW	0106-000005
12	5/16" NYLON LOCK NUT	0100-001101	31	#40X36 SPROCKET - 1" BORE	0002-041106
13	TOP ALUMINUM ARM	0002-061003	32	#40 HYDRO ROLLER CHAIN	0116-002005
14	5/16"X3" HEX BOLT	0105-000110	33	CLUTCH CRANK ASSEMBLY	0002-011200
15	REAR CROSSMEMBER HOLDER	0161-003018	34	1" HEX SHAFT	0002-031004
16	ALUMINUM PIVOT ARM GUIDE - 2"	0002-061006	35	REAR HEX LOCK COLLAR	0113-000302
N/A	ALUMINUM PIVOT ARM GUIDE - 1-1/2"	0002-061011	N/A	1/4"X3/8" SET SCREW - KNURL	0104-000002
17	3/8"X1-1/4" SEF THREADING BOLT	0106-000016	36	REAR LOCK HOOK	0113-000301
18	8' DURA REAR CROSSMEMBER - LOCK	0002-061012	37	REAR DRIVER DURA LOCK BRACKET	0002-031001
N/A	8 6" DURA REAR CROSSMEMBER - LOCK	0002-061009	38	REAR DURA LATCH	0113-000305
N/A	8' DURA REAR CROSSMEMBER	0002-061004	39	ROD CONNECTOR	0113-000306
N/A	8 6" DURA REAR CROSSMEMBER	0002-061005	40	3/4" MACHINERY BUSHING	0101-001406
19	1-3/4" PLASTIC PLUG	0113-000054	41	1/8"X1-1/4" COTTER PIN	0110-000022
20	REAR PVC TARP CLAMP	0113-000036B	42	CONNECTING ROD - 60"	0002-031003
N/A	FRONT PVC TARP CLAMP	0113-000036	43	REAR LOCK HANDLE ASSEMBLY	0002-031008
21	#10X3/4" WAFTER TEK SCREW	0106-000011	44	1/4"X1-9/16" LYNCH PIN	0110-000004
22	MESH MATERIAL	FR02-072001	45	REAR PASSENGER DURA LOCK BRACKET	0002-031002
N/A	VINYL MATERIAL	FR02-072018			

**Clutch Crank Handle Assembly Parts Break Down on Next Page**

## Parts Break Down



REF #	DESCRIPTION	PART #	REF #	DESCRIPTION	PART #
1	BACK BEARING PLATE	0002-011202	13	RATCHET GEAR	0002-011204
2	1/4" X 3/4" HEX BOLT	0105-000002	14	CLUTCH CRANK CATCH	0002-011205
3	6204-3/4-2RS BEARING	0115-000001	15	3/8" X 1-1/2" BUTTON HEAD BOLT	0105-009204
4	CLUTCH CRANK SHAFT	0002-011203	16	CRANK SPACER BUSHING	0002-011222
5	3/8" NYLON LOCK NUT	0100-001102	17	CLUTCH CRANK OFFSET NUT ASSEMBLY	0002-011221
6	6205-1-2RS BEARING	0115-000007	18	STAINLESS STEEL COMPRESSION SPRING	0117-002003
7	CLUTCH CRANK BRACKET	0002-011201	19	1/4"X1" ROLL PIN	0110-000000
8	1/4" NYLON LOCK NUT	0100-001100	20	GRAVEL CRANK HANDLE	0002-011206
9	CONTACT WASHER - .75 SQUARE	0002-011209	21	9/16" EXTERNAL SNAP RING	0110-000100
10	TORSION SPRING	0117-002014	22	PLASTIC GRIP	0113-000027
11	FRICITION PAD	0002-011210	23	5/16"X1" HEX BOLT	0105-000102
12	RATCHET CATCH BUSHING	0002-011211	1-23	CLUTCH CRANK ASSEMBLY	0002-011200