

**Tarpaulin
Systems**

**Flip -N- Go™ / Quick Mount Flip -N- Go™
System**

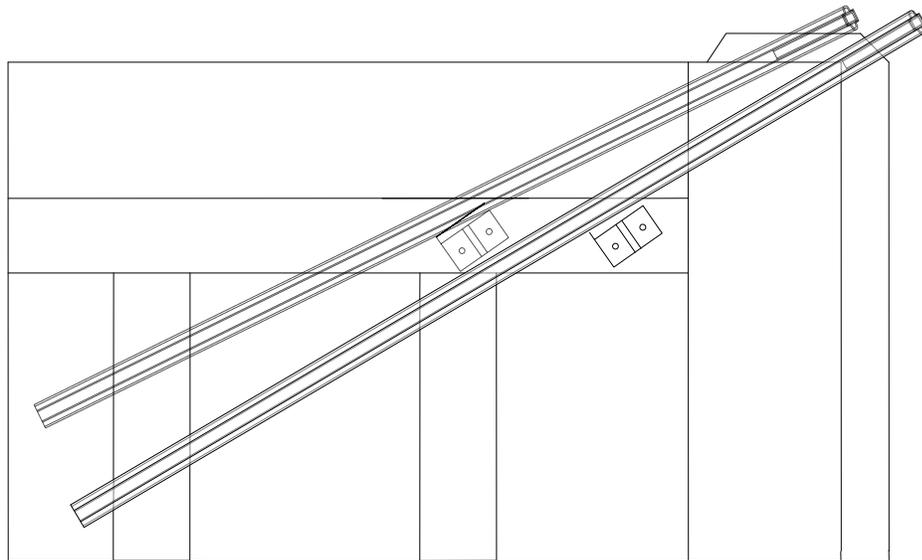
**INSTALLATION, MAINTENANCE,
& SAFETY INSTRUCTIONS**

(800) CRAMARO
(800) 272-6276

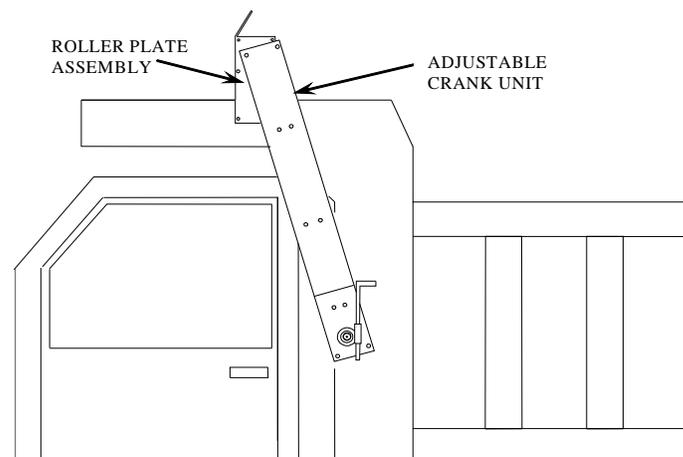
Plants In: Delaware, Florida, Massachusetts, Nevada, Ohio

A) DETERMINE PLACEMENT OF SYSTEM (Do not mount anything until Step B.)

- Decide if you want the upper arm to rest in front of the tailgate or behind the tailgate.
- If you plan on having the upper arm stop in front of tailgate or on top of tailgate then mark the spot where furthest point of arm will rest. Arms should be 1" (2.54cm) above the tailgate.
- If you plan to have the upper arm extend past the tailgate use an imaginary point 3" (7.62cm) past tailgate as the resting point. (you will need rear arm supports for the arms to rest on)



- Determine where you want to install the roller assembly. You may want to temporarily tack weld or clamp the roller plate where you will eventually want it to be mounted.

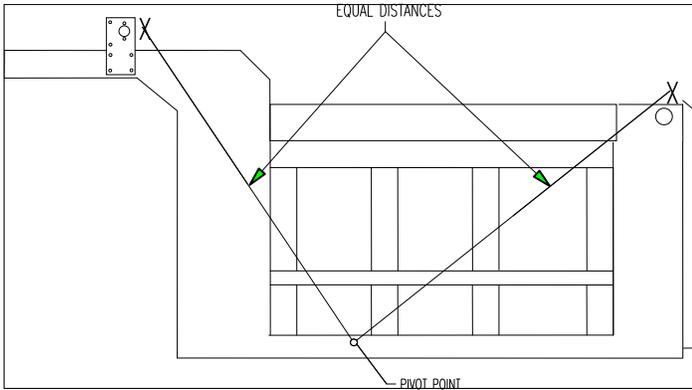


NOTE: DO NOT POSITION THE ROLLER PLATES TOO FAR FORWARD, OR ELSE ARM OR GROUND CONTROL MAY PREVENT DRIVER'S DOOR FROM OPENING.

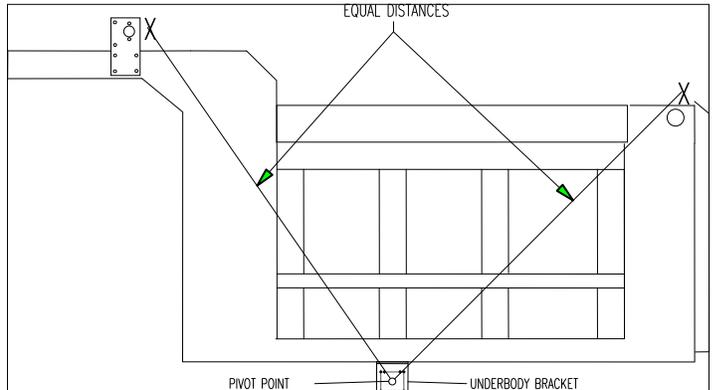
B) PIVOT POINTS

NOTE: The pivot point is the center of the shaft on the pivot plate.

- Determine the pivot point for arm assembly. Your pivot point will be the same distance from the roller assembly at front as from its rear resting point. **This is a very important step, check your measurements twice to ensure proper placement of pivot bracket.**

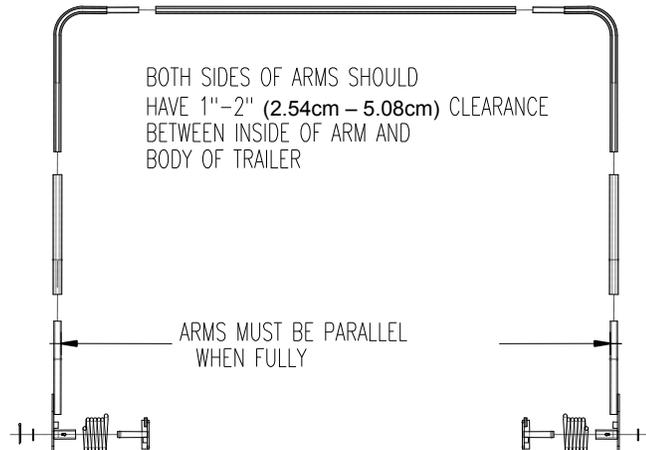


Shown without optional underbody brackets



Shown with optional underbody brackets and Quick Mount brackets

NOTE: Arms must have 1"-2" (2.54cm – 5.08cm) of clearance between inside of arm and widest point of body along swing path of arms while arms are parallel to each other.



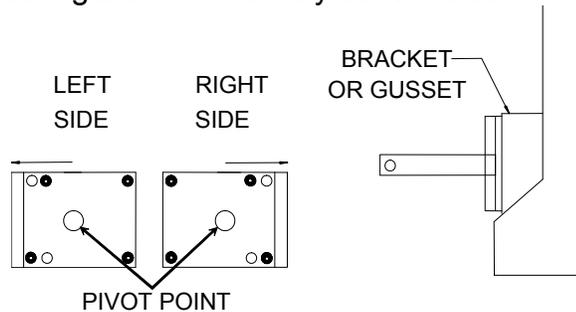
NOTE: Do not permanently install springs, arms, etc. at this time. This illustration is used to show if the pivot points need to be spaced out from the side of the body.

Step 2A – Mounting To The Side Of The Body – Go To Step 2B For Underbody Bracket Option – Go To Step 2C For Quick Mount System

- Installation of pivot plates may require the fabrication of custom brackets or gussets (not supplied). These brackets may be necessary so that the pivot plates are mounted out from

the body to achieve the 1”–2” (2.54cm – 5.08cm) of clearance. Gussets must be welded to insure that the pivot plate has no vertical movement.

- Use 3/8” x 1 ¼” bolts, flat washer, lock washer and nut to mount pivot plates to the brackets. Use the hole configuration shown by dark circles.



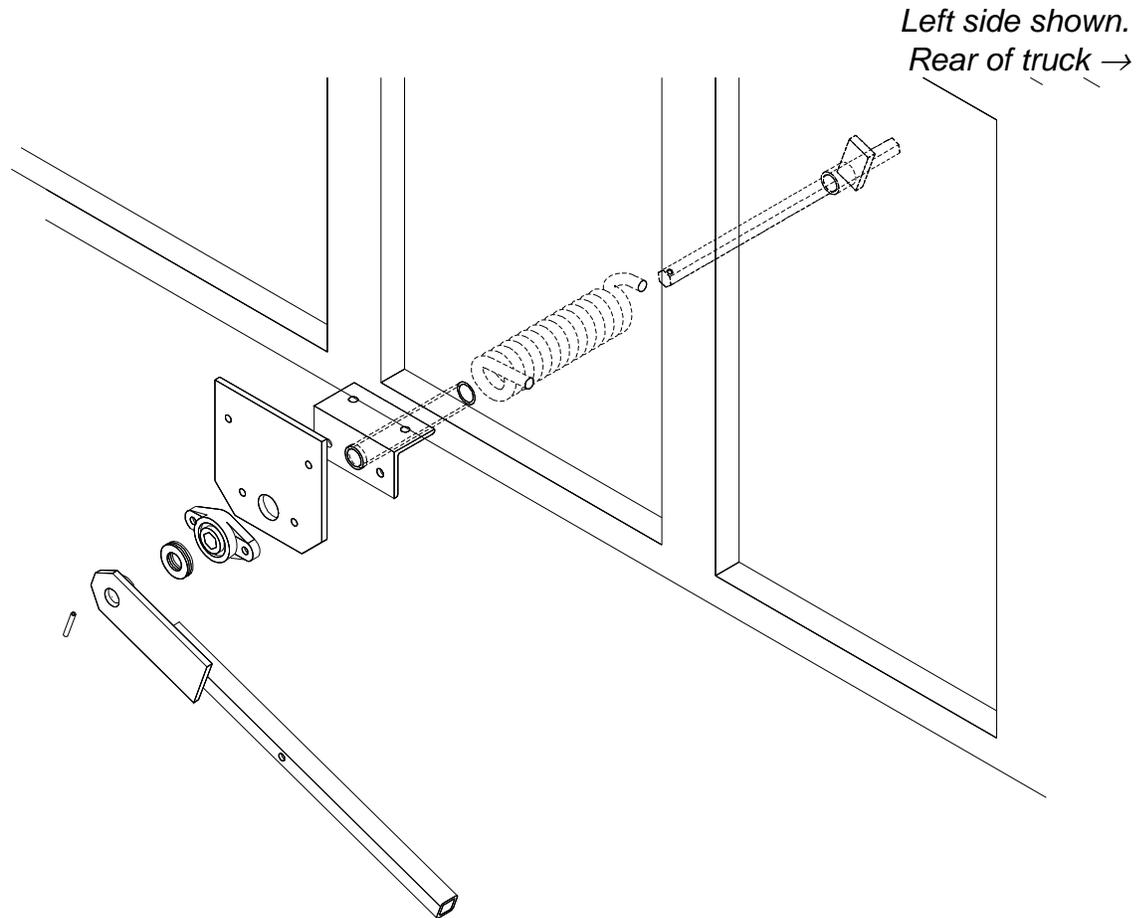
Proceed To Step 3

Step 2B – Optional Underbody Brackets For Standard Flip N Go- This option is used when the pivot point is desired to be mounted lower than the body or to “recess” the springs (bring the arms closer to the body).

- Determine pivot point mounting bracket location. Refer to the main Flip N Go installation instructions to figure out mounting location. (Make sure the location of pivot point is below the body and the swing path of arms are clear of sides of body – refer to illustration)
- Once point is determined, weld or bolt underbody bracket to underside of trailer (fabrication may be required).
- Clamp pivot point to bracket and “test” by using an arm assembly (see “Spring/ Arm/ Crossbar”). Make sure there is proper clearance between the arm and the side of the body.
- Use 3/8” x 1 ½” HHCS bolts; lock/flat washers and nut to mount pivot point to underbody bracket.

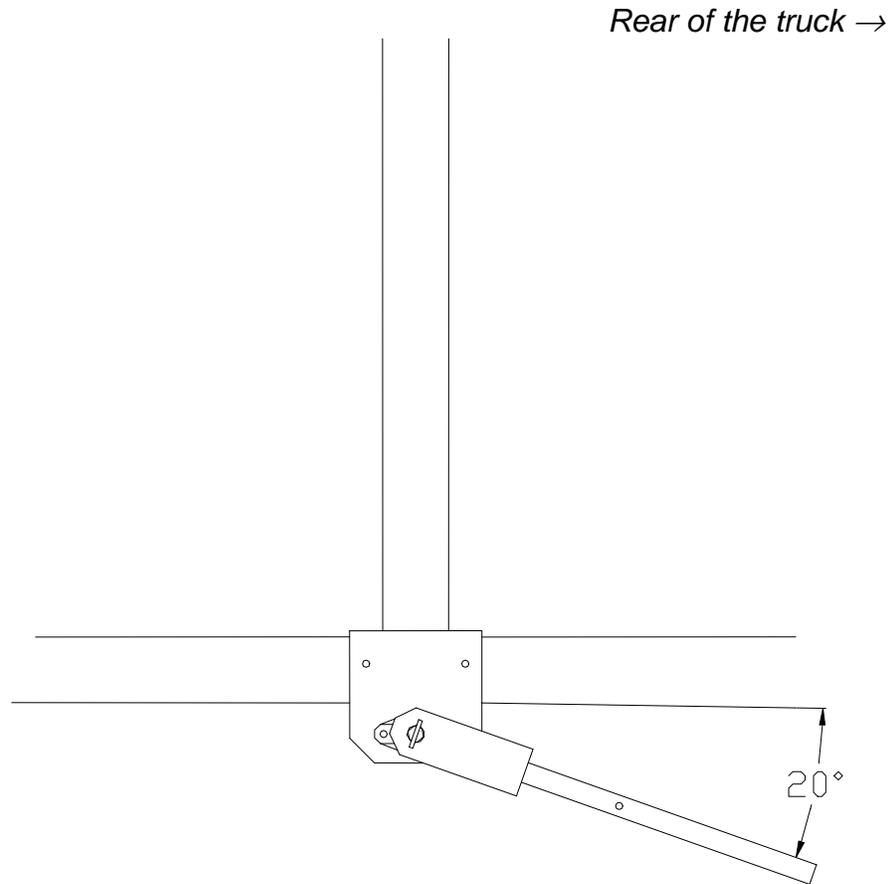
Step 2C – Quick Mount System

- Mount the pivot assembly (including the aluminum plate, bearing and angle bracket with tube) to the side of the truck bed, with the bearing facing out. The assembly should mount with the plate against the outside and the angle bracket against the underside. To mount use (2) ½” x 1 ½” bolts, lock washer, nut and (4) flat washers.



- To mount angle bracket underneath use (2) 3/8" x 1" "F" point screw and lock washer.
- Slide spring onto the support tube of the angle bracket. The correct spring for each side is determined by the following. The hook end of the spring should be to the inside of the truck, away from the mounting plate and the straight piece against the angle bracket. Both ends of the spring should face the rear of the truck when coming off the top of the spring.
- Slide the hex bar through the spring into the support tube and through the bearing until the flat bar on the hex bar is seated into the hook on the spring.
- Slide (3) 1" flat washers onto the hex bar.
- With spring seated, slide a lower pivot arm onto the hex bar so it is facing the rear of the truck with the plate on the arm to the outside.

NOTE: When doing this, the lower pivot arm should be facing downward at approximately a 20-degree angle and with no tension applied to the spring. Once on, when lifting the arm higher, there should be resistance from the spring. This is crucial in order to create proper tension on the spring when the arms are in place.



- Once the pivot arm is on, insert a $\frac{1}{4}$ " x $1 \frac{3}{4}$ " roll pin into the hex bar.
- Pull the pivot arm out until it contacts the roll pin and tighten the setscrew.
- Repeat these steps for opposite side.

Step 3 - TUNE PIVOT POINT (for standard Flip N Go system)

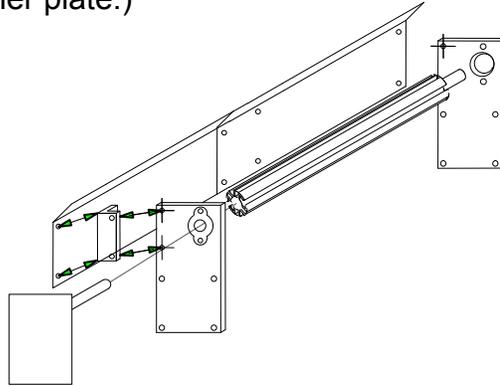
Once mounted, test the pivot bracket for proper alignment by placing the lower arm over the steel pivot arm then onto the pivot shaft without the spring. Simulate the path of the lower arm back and forth. The distance between inside of arm and the body should be the same from the front to the rear. If it is not, first check to make sure the pivot brackets are mounted flush and not at an angle. If that is not the problem you can 'tune' the pivot bracket (do not 'tune' the arm). Place a sturdy piece of pipe over the shaft and bend the shaft to the desired location. Make certain not to compromise the integrity of the pivot bracket.

C) ROLLER PLATE ASSEMBLY

Step 1A - Standard Roller Plates and Shields

- Roller plates must be installed to the same width as the maximum width of the outside of the body.

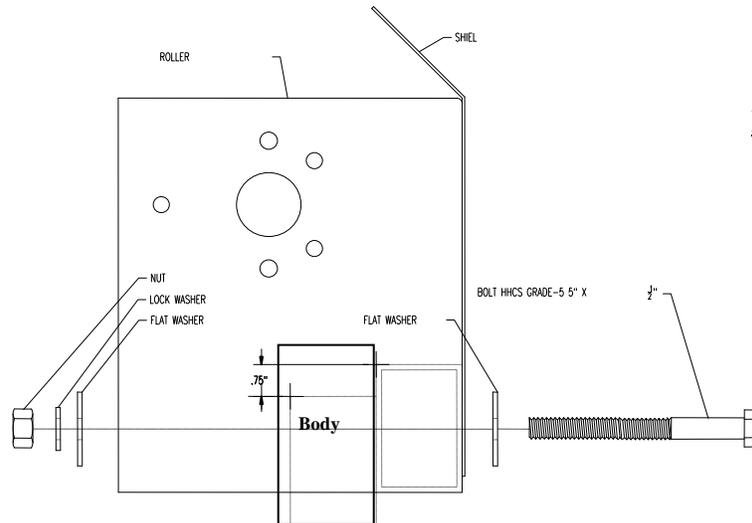
- For indented cab shields, roller plates must be spaced out (fabrication required).
- Position the roller plate with the bearing on the outside of the roller plates. Shield mounting holes should be facing forward. To install roller plates, drill 3/8" holes, then bolt using 3/8" x 1 1/4" bolts, flat washer, lock washer and nut. (If Electric option is used – no bearing will be used on the driver's side roller plate.)



- Install roller plates as low as shield mounting brackets will allow, keeping at least a 6" (15.24cm) clearance around the roller tube for the tarp to 'wind' on to. You may need to notch the wind deflector around the sides of the cab shield, allowing the roller to be positioned lower. In order to block the wind, you may need to fill in between the windshield and the cab shield.
- To mount the aluminum 1/2 shields first mount the shield adaptors to the outside of the roller plates with the angle so they face in toward each other using 3/8" x 1" bolts, flat and lock washers and nut.
- Mount the 1/2 shields to the adaptors so when they overlap in the middle there is a Cramaro sticker on both sides. Mount using 3/8" x 1" bolts, flat washer, lock washer, and nut.
- Drill through the shields where they meet in the middle and bolt shields together using 3/8" x 1" bolts, flat and lock washers and nut. Proceed to Step 2.

Step 1B - Optional Trailer Header For Radius Front Trailers

- This option is used when the trailer has a radius front. The header enables you to mount the roller plate assembly further forward, which gives you more "loading" area, and less likely to get arms damaged when loading. On square fronts the header can be used for faster, easier assembly.
- Determine the center point of outside of trailer width.
- Center the header at the front.



Right Side Shown

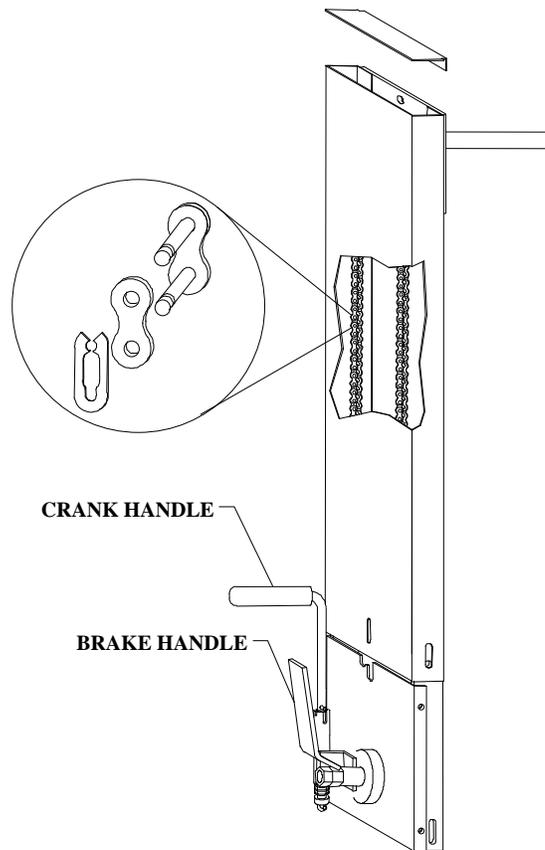
- Bolt header to the front of trailer using (4) 1/2" X 5" course bolts, (8) 1/2" flat washers, (4) 1/2" lock washers, and (4) 1/2" nuts. Make certain to mount the header higher than the body as shown in order for the tarp to have enough area for the tarp to "wind on to". Modifications or use of spacer plates (not supplied) may be required.
- If not previously done, mount (1) 3/4" cast iron bearing to right (passenger) side roller plate on the outside of the header using (2) 3/8" X 1 1/2" bolts, (2) 3/8" lock washers, and (2) 3/8" nuts.
- If you purchased a manual crank unit, mount (1) 3/4" cast iron bearing to the outside of the driver's side roller plate. Bolt using (2) 3/8" X 1 1/2" bolts, (2) 3/8" lock washers, and (2) 3/8" nuts. (If you purchased the Direct Drive Motor Kit, no bearing is needed for driver's side plate).

D) MANUAL DRIVE

(If you are installing the Electric Drive please refer to those separate installation instructions).

- For the adjustable crank unit, determine what length you need the box assembly to be. The distance from shaft on the crank unit, when in the roller assembly, down to where crank handle is easily accessible for cranking.
- Lay the handle assembly on the floor or a stable work surface. Extend the unit to the length desired and temporarily clamp together so the unit cannot extend or retract.
- Drill a 3/8" hole through the slot on both sides and front of the top box. Make certain the hole is in the top of the slot to facilitate tightening of the chain in a later process. Temporarily bolt together using 3/8" x 3/4" bolts, flat washer, lock washer and nut. Position the two side bolts with the head of the bolt on the inside, nuts on the outside. Position the front bolt with the head of the bolt on the outside, and nut on the inside. Release the clamps.

- Take the top box lid off if needed to facilitate looping the chain around the top sprocket and bottom sprocket. Cut off any excess chain to reach the desired length and connect with the master link provided. Make certain to position master link in the position shown. Once the chain is together properly, tighten the chain by extending the two telescoping boxes by loosening the (3) bolts and retighten. The chain should not have more than 3/4" (19.05mm) play from side to side. Replace the top box lid.



E) ROLLER TUBE / TARP INSTALLATION

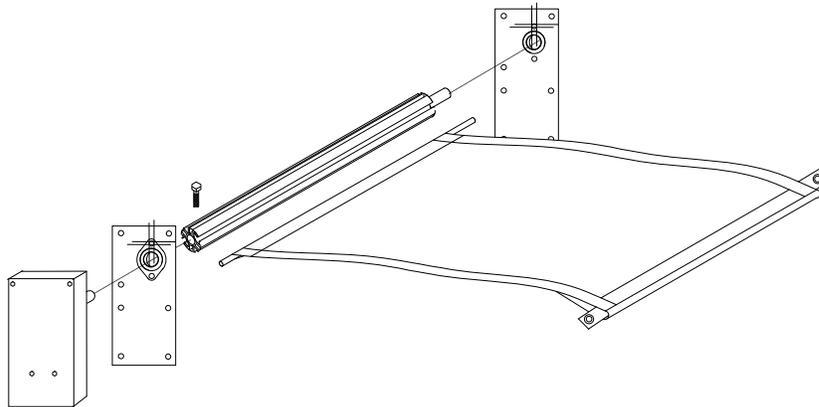
Step 1

- Measure the distance between the inside to inside of the roller plate assemblies. Deduct 11/16" (17.446mm) from the distance and cut the excess off the end of the roller tube that does not have the pre-drilled hole. This should allow a 3/16" (4.762mm) 'gap' on driver side and a 1/2" (12.7mm)'gap' on the passenger side once the roller is in place.
- Slide 6" (15.24cm) aluminum roller end into the end of the roller that does not have the pre-drilled hole. Slide the roller end (with roller tube) into the passenger side bearing so the end is flush with the outside of the bearing and tighten the set screws in the bearing. Do not bolt through the roller tube and roller end until later. Temporarily support the drivers' side of the roller tube until next step.

- Slide the upper crank box shaft through the driver side bearing and into the roller tube until the bearing on crank unit and bearing on the roller plate meet. Tighten the set screws on the roller plate bearing.
- Fasten the crank box to the body with the brackets attached to the box by drilling 11/32" hole and fastening with 3/8" x 1" self-tapping bolts. Make sure the chain is not binding.
- If using the manual crank unit: space the end of the roller tube 3/16" (4.76mm) from the inside of the driver side roller plate. Using the pre-drilled pilot hole on the roller tube, drill a 5/16" hole through the 3/4" shaft on the crank unit and bolt through using 5/16" x 2 1/2" carriage bolt, flat washer and 5/16" nylon lock nut.
- If using the electric motor option: line up the pre-drilled hole in the roller tube and the hole in the shaft on the motor and bolt through using the 5/16" x 2 1/2" carriage bolt, flat washer and 5/16" nylon lock nut.

Step 2

- Drill a 5/16" hole through the roller tube and roller end (in the same section of the extrusion adjacent from the driver side) approximately 5/8" from the edge of the roller tube. Bolt through using 5/16" x 2 1/2" bolt, flat washer and 5/16" nylon lock nut.



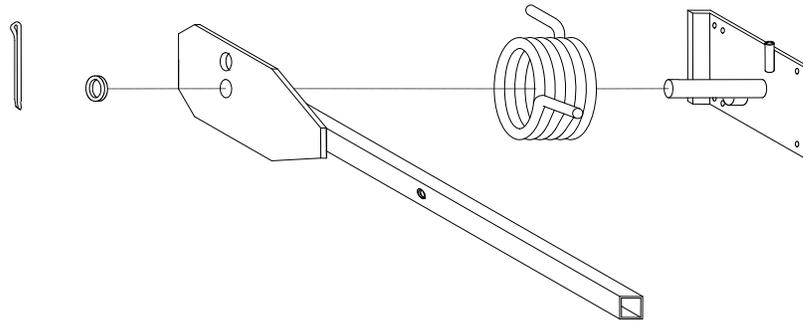
- To attach the tarp, slide the plastic spline into the slotted extrusion of the roller tube. Use the "access slot" to feed half of the tarp in first, then feeding the other half in and centering the tarp.

(You may also fasten the tarp to the roller tube through the seatbelt reinforcement. Use 1/4" x 3/4" bolts and washers, not included. Pre-cut a hole in the seatbelt where desired and screw through the seatbelt into the threaded extrusion in the roller tube. Minimum of 5 bolts required).

NOTE: The pocket end of the tarp is to be installed after the upper arms are installed.

To prevent the tarp from 'walking' from side to side on the roller tube, simply put (1) self drilling 1/2" k-lath screw through both the tarp and roller on each side.

F) SPRING /ARM / ELBOW (for standard Flip N Go system)

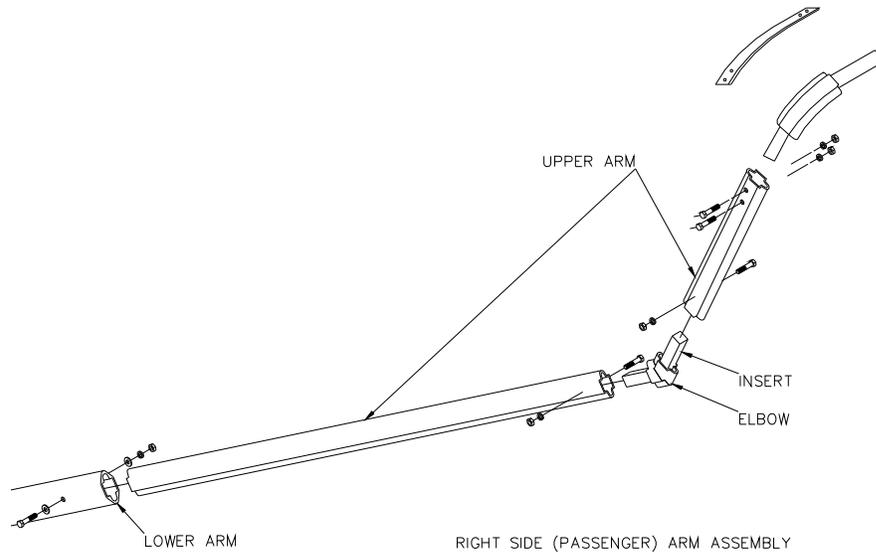


NOTE: Cotter pin must be in pivot shaft before lifting & placing spring under tension.

- Slide the spring (left side shown) over the pivot shaft so the 90° extension on spring hooks over the bend on pivot bracket.
- Slide the aluminum lower arm over the steel pivot arm assembly and match up holes in arms. Bolt with 3/8" x 2 1/4" bolt, flat washer (on each side), lock washer and nut. Head of the bolt should be to the inside of arm, between arm and trailer.
- Slide the pivot arm (attached to lower arm) over the pivot point with the arms facing toward the rear of trailer and place the 1" flat washer on and slide cotter pin in hole of pivot point. Make certain the left pivot arm is used on the left side (driver side) pivot point and same for right side (passenger side). Proceed to Step F2.

Step F1 – Two Bend Elbow Option - This option is used to utilize the full loading capacity and to get the upper arms out of the loading area, thus protecting the arms from damage.

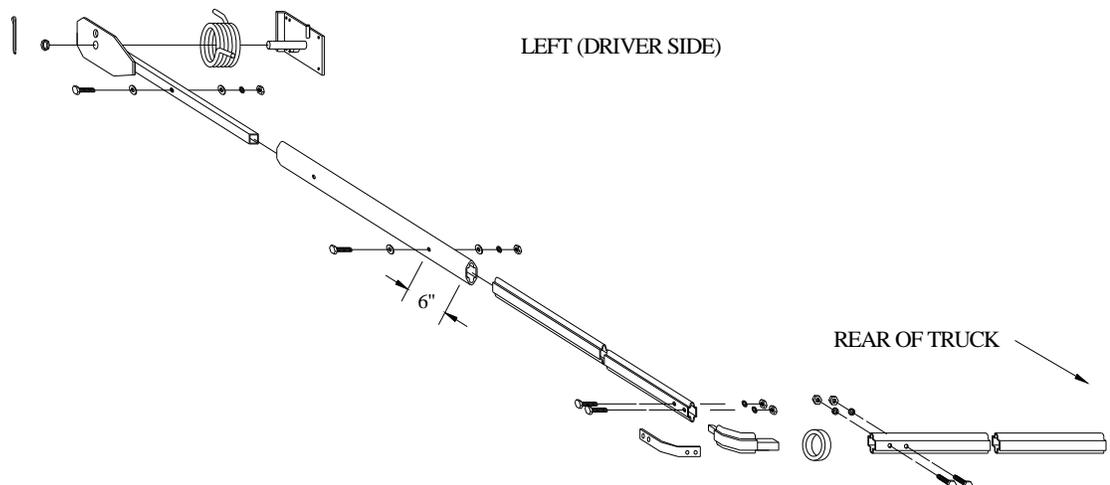
- Determine where you want to insert elbow. The minimum closest point from the end of the upper arm and "cut" for placement of elbow is 6" (15.24cm).
- Cut the upper arm straight across where you want to insert elbow and smooth the cut rough edges, inside and out.
- Insert the elbow into the straight piece of the upper arm.
- Drill through arm and insert of elbow – bolt elbow as shown using 3/8" X 1 3/4" course bolts, 3/8" lock washers, and 3/8" nuts.



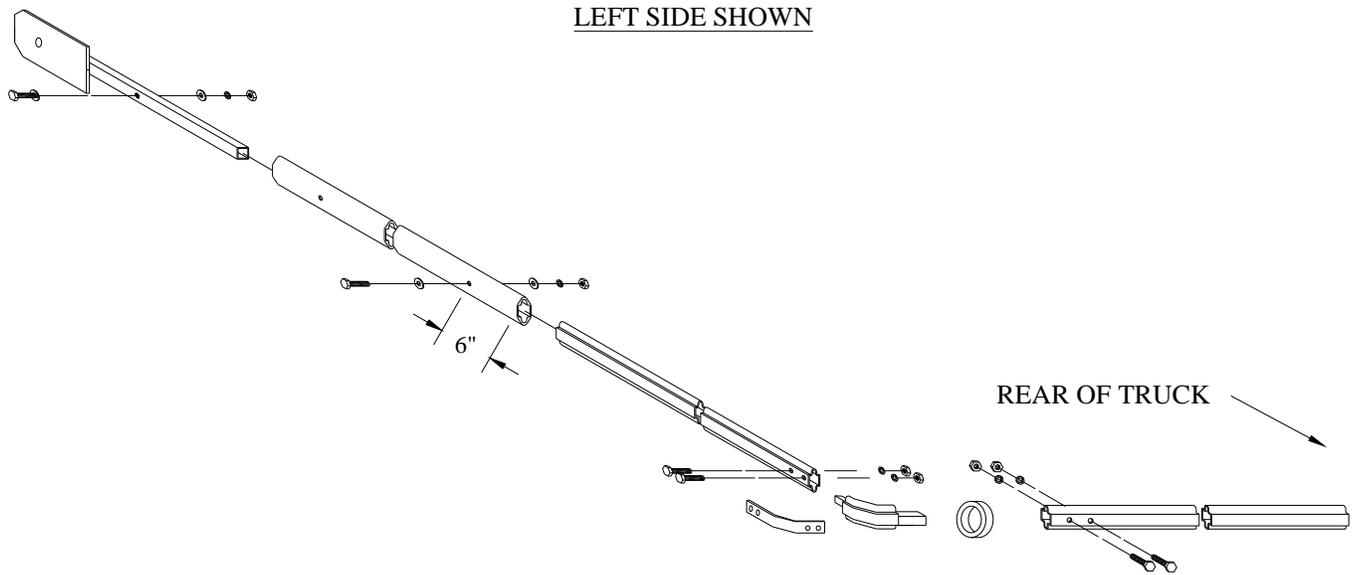
- Slide top piece of upper arm over other insert of elbow. (Be sure that bend on the upper arm is bent upwards when the arms are at the front of the truck.)
- Drill through arm and insert of elbow – bolt using 3/8" X 1 3/4" course bolts, 3/8" lock washers, and 3/8" nuts.
- Repeat steps above for other side.

Step F2

Standard Flip N Go:

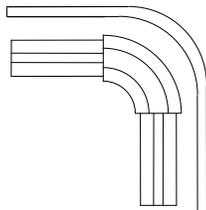


Quick Mount Flip N Go:



- Slide upper arm into lower arm (when using double bend option, the 148° elbow should bend up-then in when arm is facing the front). Slide in until end of top arm rests in desired resting position at both the rear and front. Keep in mind, the 90° elbow will add 3" (7.62cm) to the arm length (Overlap of upper arm into lower arm should be 18" (45.72cm) minimum).
- Drill a 3/8" diameter hole through top arm and lower arm 6" (15.24cm) down from the top of the lower arm. Bolt through using 3/8" x 2 1/4" bolt, flat washer (on each side), lock washer and nut.
- Repeat the same procedure for the opposite side.

Step F3 - 90° Elbows and Reinforcement Braces



- Included in your kit you will find 90° cast elbows, elbow reinforcement braces, and fasteners. Insert one of the 90° elbows into one of the upper arms, making sure they 'bottom out'. Center the reinforcement brace around the 90° elbow and drill two 5/16" holes through the reinforcement brace, the upper arm and the 90° elbow insert. Bolt through using (2) 5/16" x 2" bolts, flat washers, and nylon lock nuts. Bolt from underneath, so the nylon lock nut is on the outside of the arms.
- Repeat steps for the other upper arm.
- Once both arms are assembled with the elbow and reinforcement bolted to upper arm – lift the arm up to the top of the side board or top rail and clap arm to stay in position

- Repeat step for other side

G) CROSSBAR / TARP / RUBBER BUMPERS

Step G1 - Crossbar / Tarp / Rubber Bumpers - Make sure the arms are parallel to each other. For the proper cut length of the crossbar.

- Measure the distance between the elbows; make sure the measurement includes the distance once 'bottomed out'. Cut the crossbar to the desired length. Smooth edges for easy insertion.
- Take the crossbar and slide through pocket in tarp. Center tarp on crossbar and drill 9/32" diameter hole through the two grommet tabs then fasten with 5/16" x 1" self tapping screws with flat washers.
- Place a Rubber Bumper on each end of the crossbar before attaching the crossbar to the elbows and assembling to the upper arms. Slide in the Bumpers so they are resting on the tailgate or the top rails and to the outside of the tarps' grommet tabs. To get optimum use of these bumpers, the crossbar should rest on top of the tailgate.
- Once the tarp and bumpers are inserted, connect the crossbar to the elbows. Drill 5/16" holes through the reinforcement brace, the crossbar and the 90° elbow. Bolt through using (2) 5/16" x 2" bolts, flat washers, and nylon lock nuts. Bolt from underneath, so the nylon lock nut is on the outside of the arms. Tighten all bolts securely.
- Repeat connection of crossbar to the other side
- Spread the cotter pin at pivot point open both ways and grease the fitting.

H) OPTIONAL REAR ARM SUPPORTS (EARS)

Typically used when extending the crossbar past the tailgate

- Install ears with 3/8" x 5 1/2" bolts provided, at an angle to match resting position desired. You may need to build out from the trailer for the ears to be lined up with the arms.

I) SAFETY

- When installing your system, use OSHA approved ladders or scaffolding when working above ground level.
- Be careful of existing wires in or on the truck bed.
- Disconnect battery terminals before doing any welding.

- Use “helpers” when necessary to hold or help lift.
- Keep clothing and body parts clear of any moving parts while operation system.
- Vinyl tarps are required to be secured at rear in windy conditions.
- Do not dump with load covered.
- When operating system, BEWARE OF OVERHEAD WIRES.
- When operating system, make sure there is no one in the swing path of the arms.

J) MAINTENANCE

Every week for the first month after installation, then monthly thereafter:

- Grease pivot points on lower arms.
- Grease bearings on roller plate assemblies.
- Remove handle cover and check chain tension. If chain is too tight or too loose the system will not operate properly.
- Check tarp for any abnormal wear. Small holes can become big problems if not fixed soon enough.
- Check all bolts and tighten if necessary.
- Immediately fix/replace any parts that are damaged.
- Use oil similar to WD40 to oil the chain. Do not oil near the crank mechanism because it may cause it to ‘slip’ and not work safely or properly.

K) OPERATION OF THE SYSTEM

SPECIAL NOTE: The first time the tarp is rolled up onto the roller, make sure that it rolls evenly on both sides. If not, make certain all installation steps were followed correctly. You may need to ‘shorten’ one side of the tarp by repositioning the tarp on the roller tube in order to have both sides roll evenly.

TO UNCOVER LOAD

1. Turn safety lock to the “unlock” position.
2. Turn crank handle counter clockwise until cross arm rests securely at roller.
3. Turn safety lock to “lock” position.

TO COVER LOAD

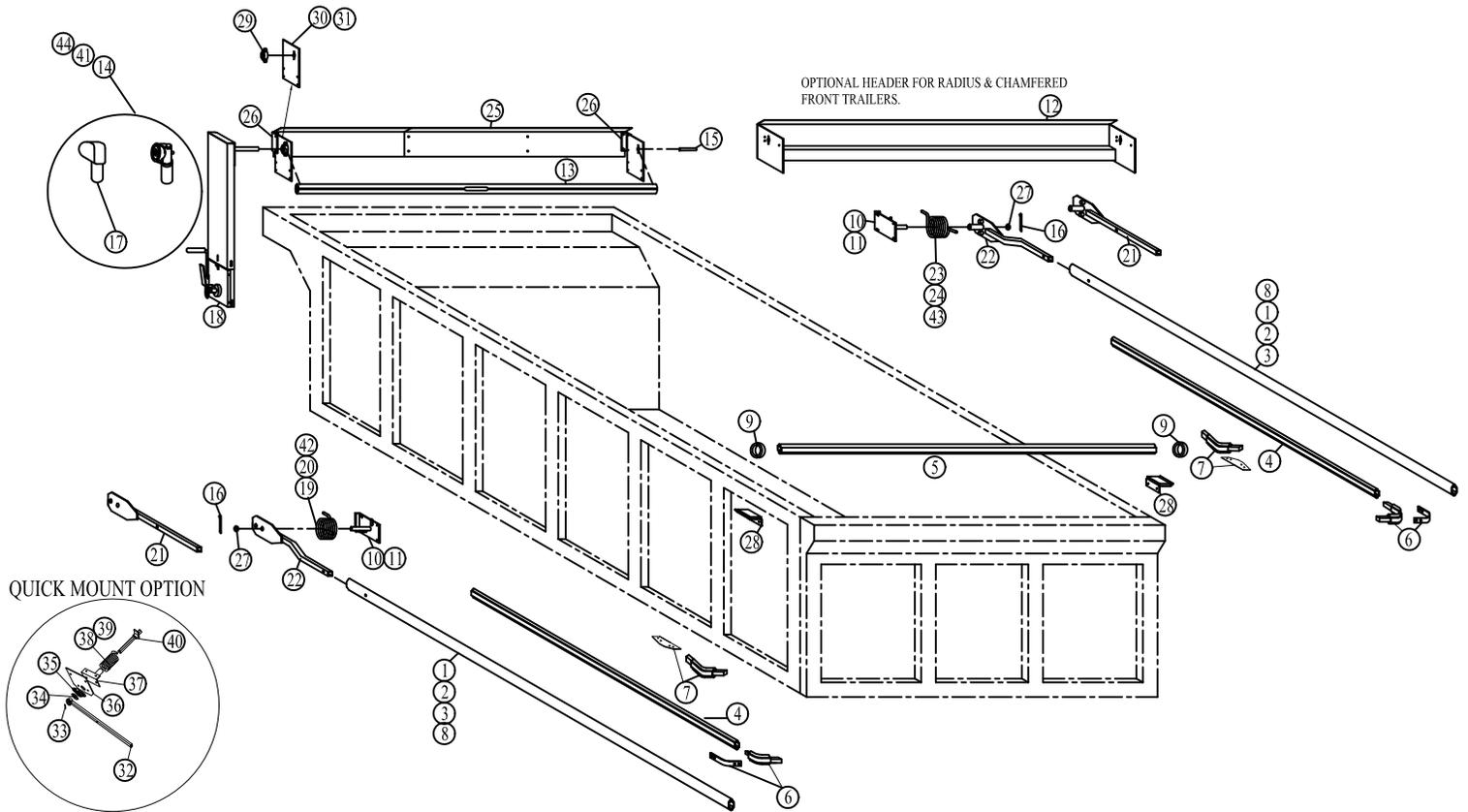
1. Turn safety lock to “unlock” position.
2. Slowly turn brake handle counter clockwise until arms start to move.
3. To make system move faster - continue to turn brake in same direction.
4. To make system slow down or stop - turn clockwise.
5. Cover load completely until arms are at correct resting place.
6. Turn brake handle firmly clockwise to tighten.
7. Turn safety lock to “lock” position

***IMPORTANT NOTE: In order to avoid damage to the system always slow down the arms as much as possible before they hit the rear arm supports. The arms should not 'slam' on the rear arm supports; the arms should be gently lowered.**

Please call Cramaro Tarpaulin Systems, Inc. if there are any questions or concerns regarding your installation.

CRAMARO

ALUMINUM FLIP N GO®

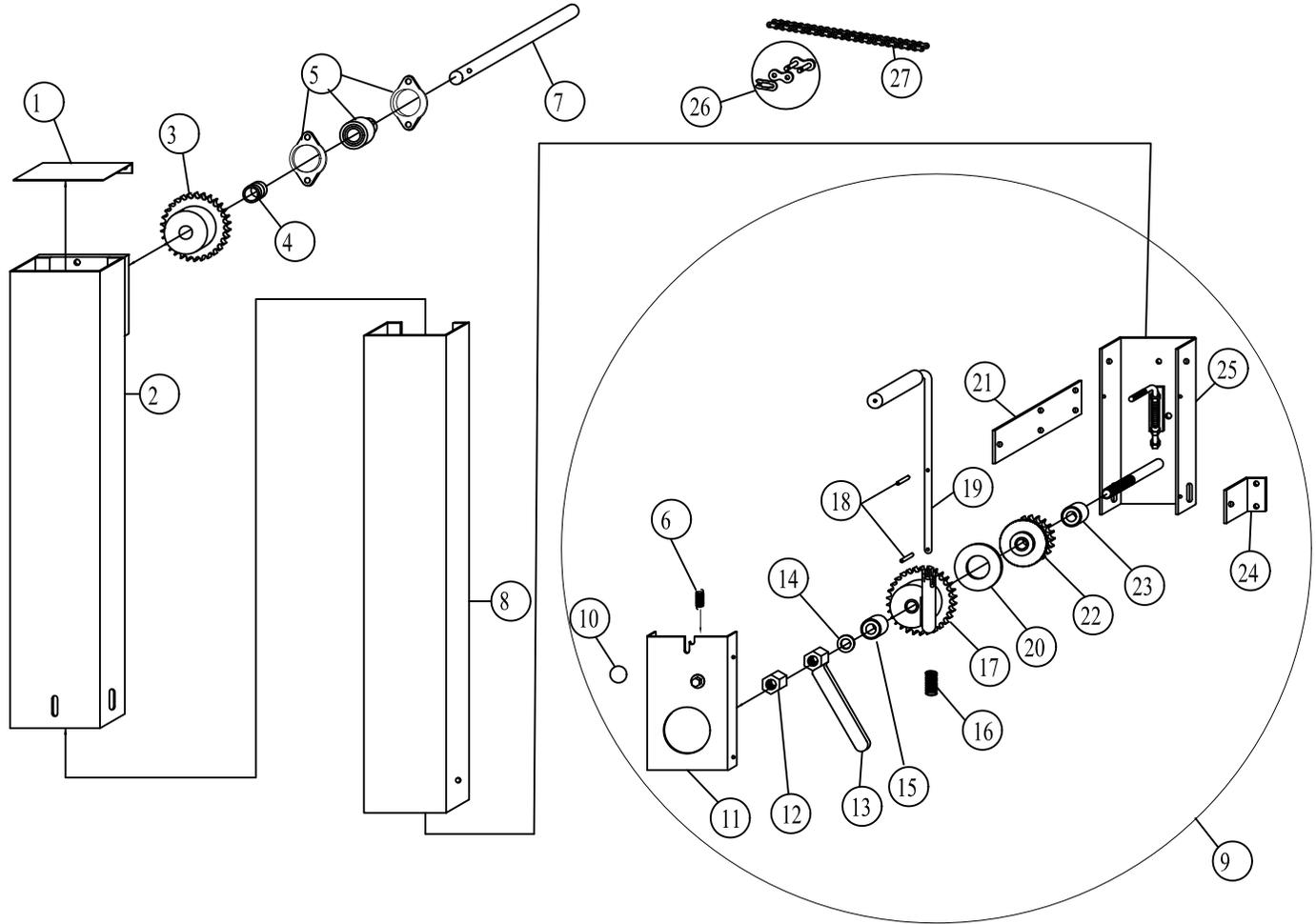


ITEM	PART #	DESCRIPTION	QTY.
1	119505	ALUMINUM SYSTEM LOWER ARM 5'	2
2	119510	ALUMINUM SYSTEM LOWER ARM 10'	2
3	119515	ALUMINUM SYSTEM LOWER ARM 15'	2
4	119517	ALUMINUM SYSTEM UPPER ARM STRAIGHT	2
5	119540	ALUMINUM SYSTEM CROSSBAR	1
6	110089	ELBOW 90 DEGREES CORNER KIT	2
7	119766	ELBOW 148 DEGREE CORNER KIT	2
8	119516	ALUMINUM SYSTEM LOWER ARM 20'	2
9	114453	RUBBER TARP STOPS	2
10	117215	10'-30' PIVOT ASSEMBLY	1
11	117315	31'-40' PIVOT ASSEMBLY	1
12	118750	TRAILER HEADER	1
13	118317	ROLLER TUBE C/W ITEM 15 (118710) ROLLER END 6"	1
14	164900	1.8HP MOTOR ASSEMBLY	1
15	118710	ROLLER END 6"	1
16	116010	COTTER PIN 3/8" X 3 1/2"	2
17	164902	PLASTIC MOTOR COVER	1
18	114200	ADJUSTABLE CRANK UNIT ASSEMBLY (3/4" OUTPUT)	1
19	117230	10'-30' TORSION SPRING 5/8" (LEFT)	1
20	117330	31'-40' TORSION SPRING 3/4" (LEFT)	1
21	119705	ALUMINUM SYSTEM 10'-40' STRAIGHT PIVOTING ARM	2
22	119850	ALUMINUM SYSTEM 10'-40' OFFSET PIVOTING ARM	2

ITEM	PART #	DESCRIPTION	QTY.
23	117235	10'-30' TORSION SPRING 5/8" (RIGHT)	1
24	117335	31'-40' TORSION SPRING 3/4" (RIGHT)	1
25	116200	ALUMINUM 1/2 SHIELD	2
26	117000	SHIELD ADAPTOR BRACKETS	2
27	116006	PIVOT POINT WASHER	2
28	118210	REAR ARM SUPPORT (EARS) WITH FOAM PADS	2
29	116355	BEARING 3/4" CAST IRON	1
30	118951	ROLLER PLATE ALUMINUM	1
31	227400	ROLLER PLATE RAW STEEL	1
32	119405	QUICK MOUNT ARM	2
33	-----	ROLL PIN CONTAINED IN QUICK MOUNT BOLT BOX	1
34	-----	WASHERS CONTAINED IN QUICK MOUNT BOLT BOX	1
35	116085	QUICK MOUNT BEARING	1
36	119415	QUICK MOUNT PLATE	1
37	119435	QUICK MOUNT BRACKET	1
38	117420	QUICK MOUNT COIL SPRING LEFT	1
39	117425	QUICK MOUNT COIL SPRING RIGHT	1
40	119440	QUICK MOUNT HEX BAR ASSEMBLY	1
41	164905	600W MOTOR ASSY (FOR USE WITH 10-20' SYSTEMS)	1
42	119630	41'-50' SPRING 13/16" (LEFT)	1
43	119635	41'-50' SPRING 13/16" (RIGHT)	1
44	164903	2.1HP MOTOR ASSEMBLY	1
	110005	FNG BOLT BOX (NOT SHOWN)	1

CRAMARO

FLIP N GO[®] CRANK UNIT



ITEM	PART #	DESCRIPTION	QTY.	ITEM	PART #	DESCRIPTION	QTY.
1	114226	ADJUSTABLE TELESCOPING BOX LID	1	16	111040	SPRING SS 3 1/2"	1
2	114209	ADJUSTABLE TELESCOPING UPPER BOX	1	17	114205	ADJUSTABLE LOWER SPROCKET 40B30	1
3	119150	ADJUSTABLE UPPER SPROCKET 40B30-3/4B	1	18	410050	7/32" x 1" ROLL PIN PLATED	2
4	406645	FLAT WASHER 3/4" USS	3	19	116105	HANDLE ASSEMBLY (C/W P/NS 116101, 111040, & 410050)	1
5	113040	DOUBLE FLANGE AND 3/4" BEARING	1	20	113020	ADJUSTABLE CLUTCH PAD	1
6	110021	ADJUSTABLE CLICKER SPRING	1	21	114208	ADJUSTABLE MOUNT PLATE	1
7	228110	ADJUSTABLE ROLLER END OUTPUT SHAFT 3/4"	1	22	114206	ADJUSTABLE LOWER SPROCKET 40B20	1
8	114210	ADJUSTABLE TELESCOPING LOWER BOX	1	23	114211	ADJUSTABLE THRUST BEARING	1
9	114215	ADJUSTABLE LOWER BOX ASSEMBLY	1	24	114207	ADJUSTABLE MOUNT BRACKET	1
10	114213	ADJUSTABLE PLUNGER KNOB	1	25	114201	ADJUSTABLE LOWER BOX	1
11	114202	ADJUSTABLE LOWER BOX COVER	1	26	105076	CHAIN MASTER LINK #40	1
12	114204	ADJUSTABLE SAFETY NUT	1	27	105075	CHAIN #40 NICKEL PLATED	1
13	114203	ADJUSTABLE TENSION HANDLE	1				
14	114212	ADJUSTABLE THRUST WASHER	1				
15	114211	ADJUSTABLE THRUST BEARING	1				