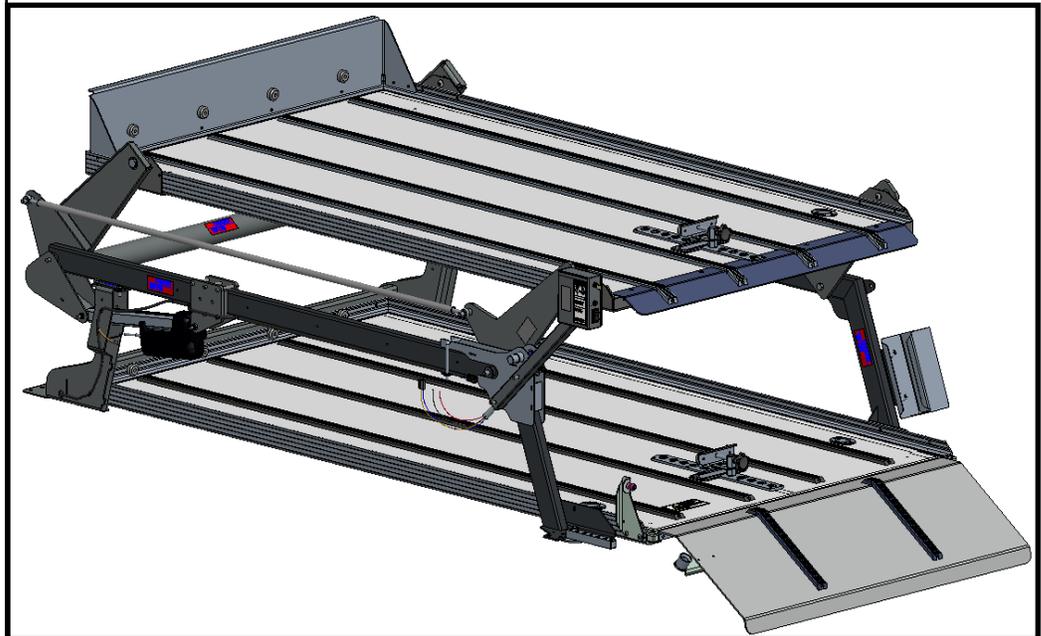




# INSTALLATION INSTRUCTIONS

## DD2000-XLC (7226A000)



*Link mfg. Ltd.  
223 15th St. N.E.  
Sioux Center, IA USA  
51250-2120*

*(712) 722-4868  
Fax (712) 722-4779  
[www.linkcmp.com](http://www.linkcmp.com)*

**QUESTIONS?  
CALL CUSTOMER  
SERVICE  
1-800-248-3057**

The Link DD2000-XLC fits most full-size cargo vans.

## 1. INTRODUCTION

Thank you for choosing a Link Cargo Management Products (CMP) DD2000-XLC Double Deck transportation system. We want to help you to get the best results from the deck and to operate it safely. This manual contains information to introduce you to the Link CMP DD2000-XLC and to assist you with its installation. The manual is intended solely for use with this product.

All information in this manual is based on the latest information available at the time of printing. Link Manufacturing reserves the right to change its products or manuals at any time without notice. Updated instructions are available at [www.linkcmp.com](http://www.linkcmp.com) or by contacting Link CMP at (800) 248-3057.

Damaged components should be returned to Link with a pre-arranged Returned Goods Authorization (RGA) number through the Customer Service Department. The damaged component may then be replaced if in compliance with warranty conditions.

## 2. SAFETY SYMBOLS, TORQUE SYMBOL, and NOTES

**IMPORTANT:** IT IS IMPORTANT THAT THE ENTIRE INSTALLATION INSTRUCTIONS BE READ THOROUGHLY BEFORE PROCEEDING WITH DECK INSTALLATION.

	<b>This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.</b>
 <b>WARNING</b>	<b>WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</b>
 <b>CAUTION</b>	<b>CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.</b>
<b>CAUTION</b>	<b>CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.</b>

	<b>The torque symbol alerts you to tighten fasteners to a specified torque value. Refer to the torque table on page 7.</b>
<b>NOTE:</b>	<b>A Note provides information or suggestions that help you correctly perform a task.</b>
	<b>The electrical symbol indicates the presence of electric shock hazards which, if not avoided, may result in injury to personnel or damage to equipment.</b>

## 3. SAFE WORKING PRACTICES:

3.1

### CAUTION

- When handling parts, wear appropriate gloves, eyeglasses, ear protection, and other safety equipment.

3.2

### CAUTION

- Practice safe lifting procedures.
- The deck weldments are heavy, and can cause injury if lifted improperly or dropped. Consider size, shape, and weight of objects being moved.
- Obtain help or the assistance of a crane when lifting heavy assemblies. Make certain the path of travel is clear.

## 4.

### INSTALLATION GUIDELINES

- 4.1 In order for this deck to operate properly, it must operate in the parameters specified by Link.
- 4.2 The installer must verify the vehicle is configured properly for the deck being added.
- 4.3 No alterations of any Link deck component is permitted without proper authorization from qualified Link personnel.
- 4.4 No welding of any deck component is permitted except when specified by Link.
- 4.5 See pg.10 for electrical requirements.

4.6

### CAUTION

- The vehicle manufacturer should be consulted before any modifications are made to the frame of the vehicle.
- Cutting or altering the frame in certain areas may affect the manufacturer's warranty.

4.7

### WARNING

- Proper tightening of fasteners is important to the performance and safety of the deck.
- Improperly tightened fasteners may cause unsafe conditions and accelerate wear .

## 5. PRE-INSTALLATION CHECKLIST

- Make certain the vehicle is placed on a level flat surface and that the parking brake is engaged.
- Refer to the vehicle owner's manual to locate the power supply where the deck's power wire will attach. This may be located under the driver's seat or under the hood in the engine compartment.

### WARNING



- Follow the vehicle manufacturer recommendations located in the owner's manual pertaining to accidental air bag deployment whenever performing service on system wiring.
- If in doubt, contact the vehicle manufacturer.

## 6. INSTALLATION PROCEDURE

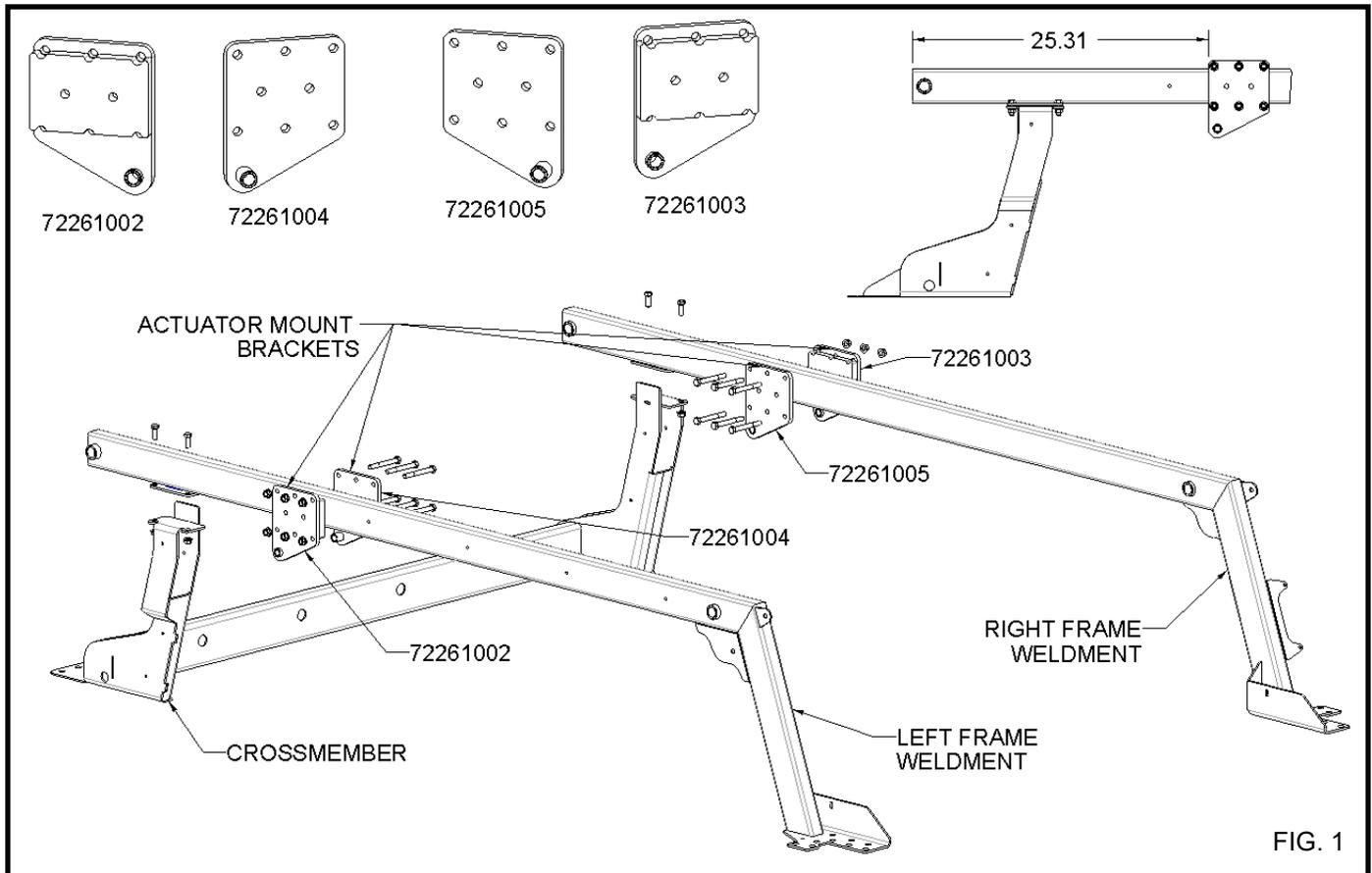
- 6.1. Begin by cleaning out the area where the DD2000-XLC is to be installed and removing any floor mats. On GM cargo vans the plastic molding at the rear of the van floor must also be removed.
- 6.2. Inside the vehicle, assemble the left and right frame weldments to the crossmember using (4) 3/8 X 1 UNC bolts and (4) 3/8 serrated flange nuts as shown in **FIG.1**. Finger tighten all attachment bolts. Final tightening will be completed following installation and adjustment of the torsion arm and tie-rods.

### CAUTION

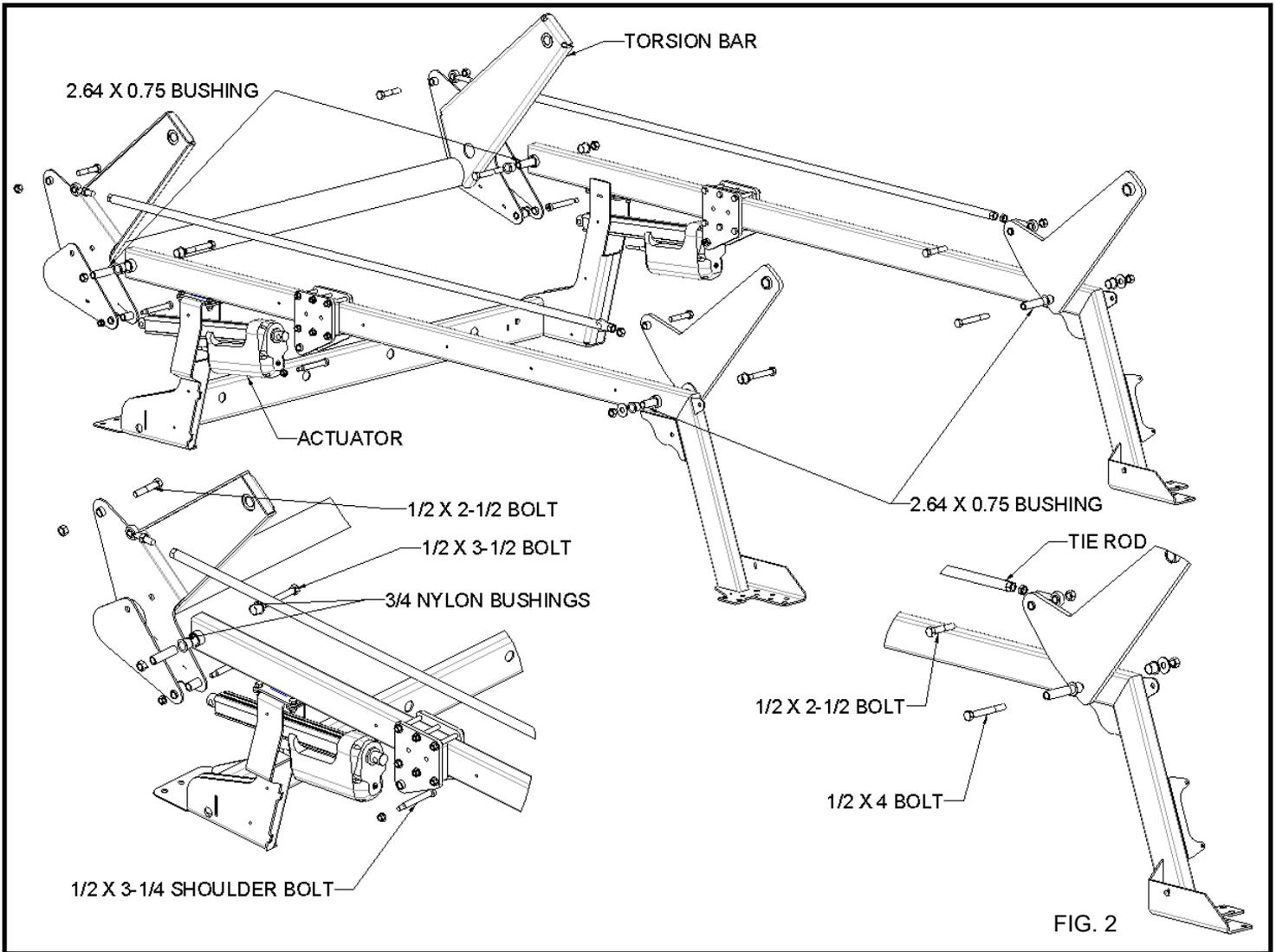
- Potential pinch points exist during installation.
- The width of the unit has been designed to maximize the amount of usable space and, as such, will come in close proximity to door jams and internal features.
- Use caution when maneuvering the frame assembly into the vehicle.

- 6.3. Assemble the actuator mount brackets to the right and left frame weldments, using (12) 3/8 X 3 UNC bolts and (12) 3/8 serrated flange nuts. See **FIG. 1** for the placement of the actuator mount brackets.

**NOTE:** The (4) actuator mount brackets are not interchangeable, and must be placed correctly for proper function.



- 6.4 Insert the steel and nylon pivot bushings into the deck frame. (See **FIG. 2**)
- 6.5 Install the torsion bar weldment using (2) 1/2 X 3-1/2 bolts, and (2) 1/2 lock nuts. Torque to the value specified in the torque table on pg 10.
- 6.6 Install the motor end of the actuators in the actuator mounts using (2) 1/2 X 3-1/4 shoulder bolts, and (2) 3/8 serrated flange nuts. The motor housing of the actuator should be below the actuator body. (See **FIG. 2**)
- 6.7 Attach the rod ends of the actuators to the torsion bar with (2) 1/2 x 3-1/4 shoulder bolts and (2) 3/8 serrated flange nuts. (see **FIG.2**)
- 6.8 Install the rear swing arm weldments using (2) 1/2 X 4 bolts and (2) 1/2 lock nuts. Torque to the value specified in the torque table on pg 10.
- 6.9 Attach the tie rod links to the torsion bar and rear swing arms using (4) 1/2 X 2-1/2 bolts and (4) lock nuts. Torque to the value specified in the torque table on pg 10. Do not adjust the length of the tie rods at this point.



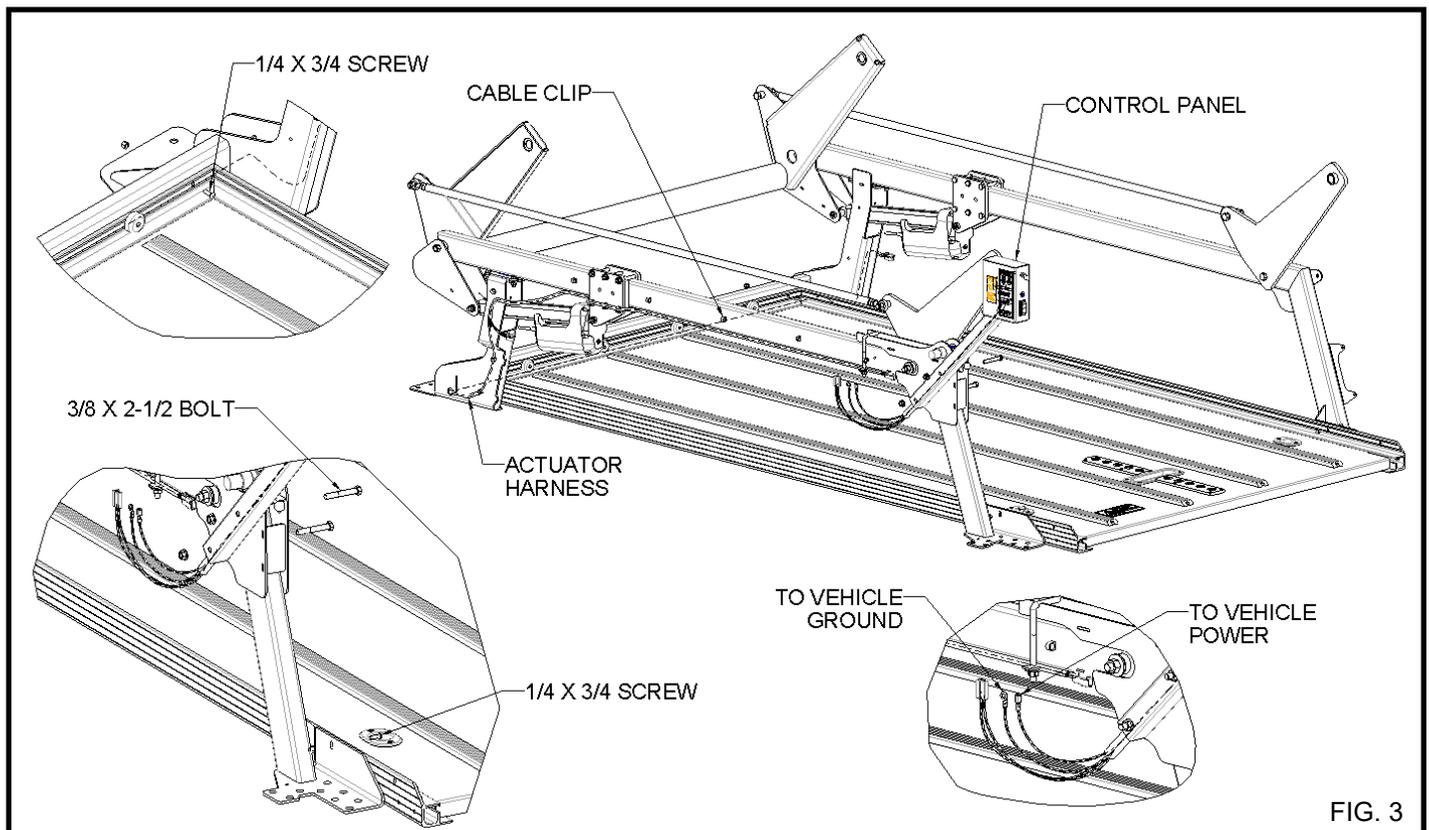


- 6.10 Place the bottom deck in the vehicle (**FIG.3**) and secure it at the front and rear with (4) 1/4 X 3/4 socket button head screws and (4) lock nuts.
- 6.11 Place deck latch on left side frame rail. Install with (2) 3/8 X 1 bolts and (2) 3/8 serrated flange nuts if the control box is to be mounted on the right side frame rail. Attach the U-bolt assembly around the frame.
- 6.12 Install the control box with (2) 3/8 X 2-1/2 bolts and (2) 3/8 serrated flange nuts. The control panel is shown installed on the left side, but can be be installed on the right side if desired, with no modifications to the panel.
- 6.13 Install the plastic cable clips in the front crossmember and frame weldment forward from the control panel. Locate the end of the actuator power harness which mates with the connector on the control panel, connect this end to the control panel. Run the actuator harness along the frame in the mounting clips, down and through the holes in the crossmember weldment, and up the other side of the crossmember. Ensure that the harness is clear of moving parts and is not stretched too tightly or loosely, and connect it to the actuators.
- 6.14 Attach the control panel ground wire to the vehicle ground (usually on the rear pillar). Connect the power wire to the control panel power wire, run it forward, and attach it to the vehicle's positive terminal. (See **FIG.3**)
  - a. If an engine compartment location is used, run the power wire through the floor of the vehicle, along the frame rail, and into the engine compartment. Being sure to avoid all heat and rubbing hazards,
  - b. Use rubber grommets and wire loom on all through-floor connections to prevent damage to the wire caused by rubbing.
  - c. Do not route or attach wire to fuel or brake lines, steering linkages, or exhaust/heat shields. Secure the power wire using the provided wire clamps to prevent movement.

### **WARNING**

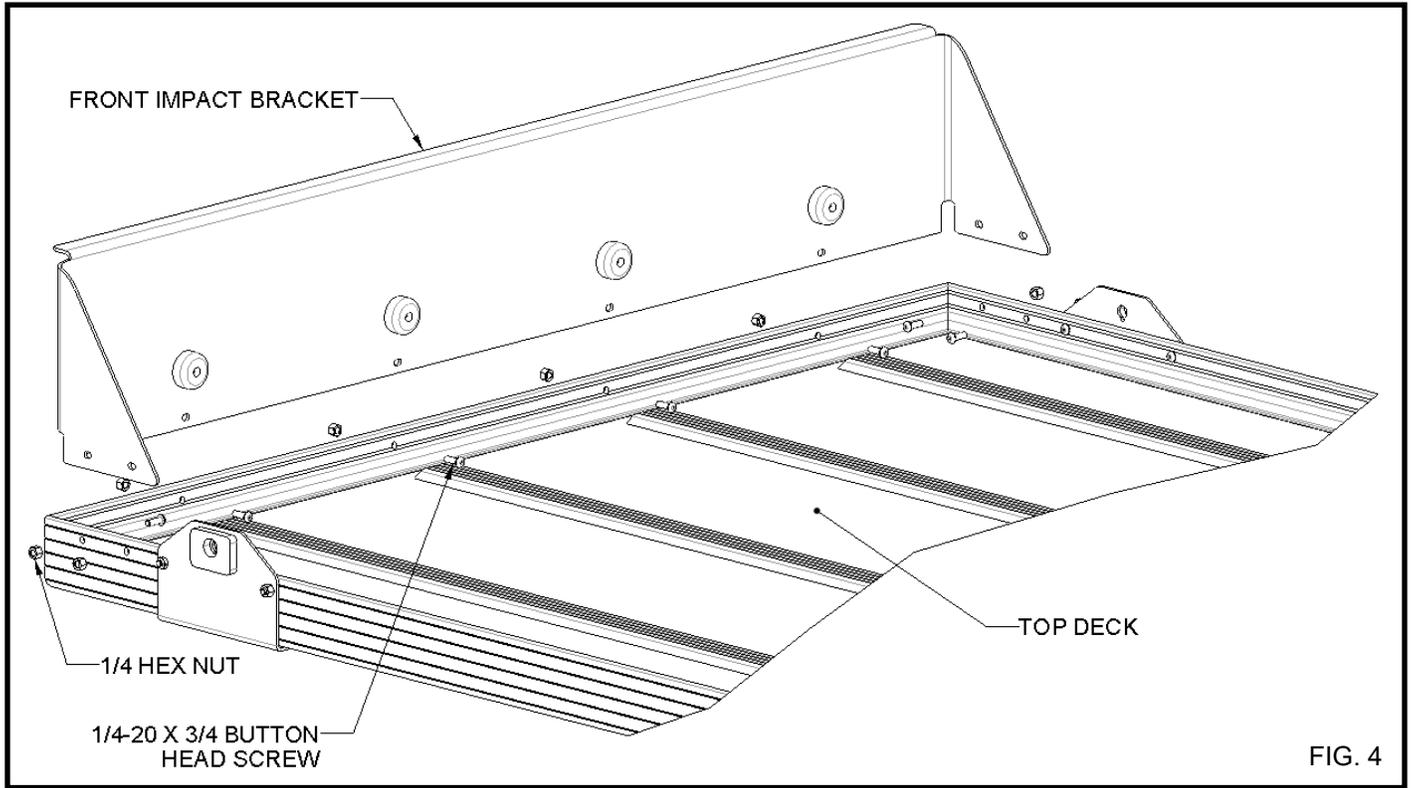
- Do not “piggy back” or tap into either side of any fuse in the vehicle’s fuse box.
- Improper wiring may cause injury to operator, or damage to vehicle systems.

**NOTE:** Sprinter and GM cargo vans have a positive stud terminal located under the driver’s seat. Ford, Nissan, and Ram vans connect to the positive side of the battery. Refer to the vehicle owner’s manual for battery location. An inline fuse is provided, and should be placed no further than 12 in. from the positive battery connection.





6.15 Attach the Front Impact Bracket to the Top Deck using the (8) 1/4-20 X 3/4 Button Head Screws and (8) 1/4 lock nuts. (FIG. 4)



6.16 Place blocks on top of the bottom deck for the top deck to rest on during installation. Place the top deck in the vehicle on top of the blocks. **(FIG.5)** Insert the nylon and steel bushings into the sleeves at the ends of the torsion bar arms, and the rear swing arms.

**NOTE:** The nylon bushing lengths are different for the front and rear arms, ensure that the bushings are placed correctly for proper fit and function.

 6.17 Attach the top deck to the torsion tube pivots in front with (2) 1/2 X 1 socket button head screws and (2) pivot pins. Attach the top deck to the rear swing arms using (2) 1/2 X 2-3/4 socket button head screws, (2) 1/2 plain washers, and (2) lock nuts. Once the top deck is installed, raise deck slightly and remove the blocks.

6.18 Raise the top deck so that the tie rods are horizontal and in-line with the top deck. Adjust the tie-rods so that

**⚠ CAUTION**

- The operation of the DD2000 involves moving parts.
- Pinch points may exist between components during the course of travel.
- Make certain all personnel are aware of movement before it occurs and that all appendages are clear of movement areas to prevent personal injury.

there is no play, and the top deck is level. Raise and lower the top deck to check for binding. If no binding occurs, tighten the jam nuts on the front and rear of the tie rods. Re-check that no binding or bowing of the tie-rods occurs by raising and lowering the top deck.

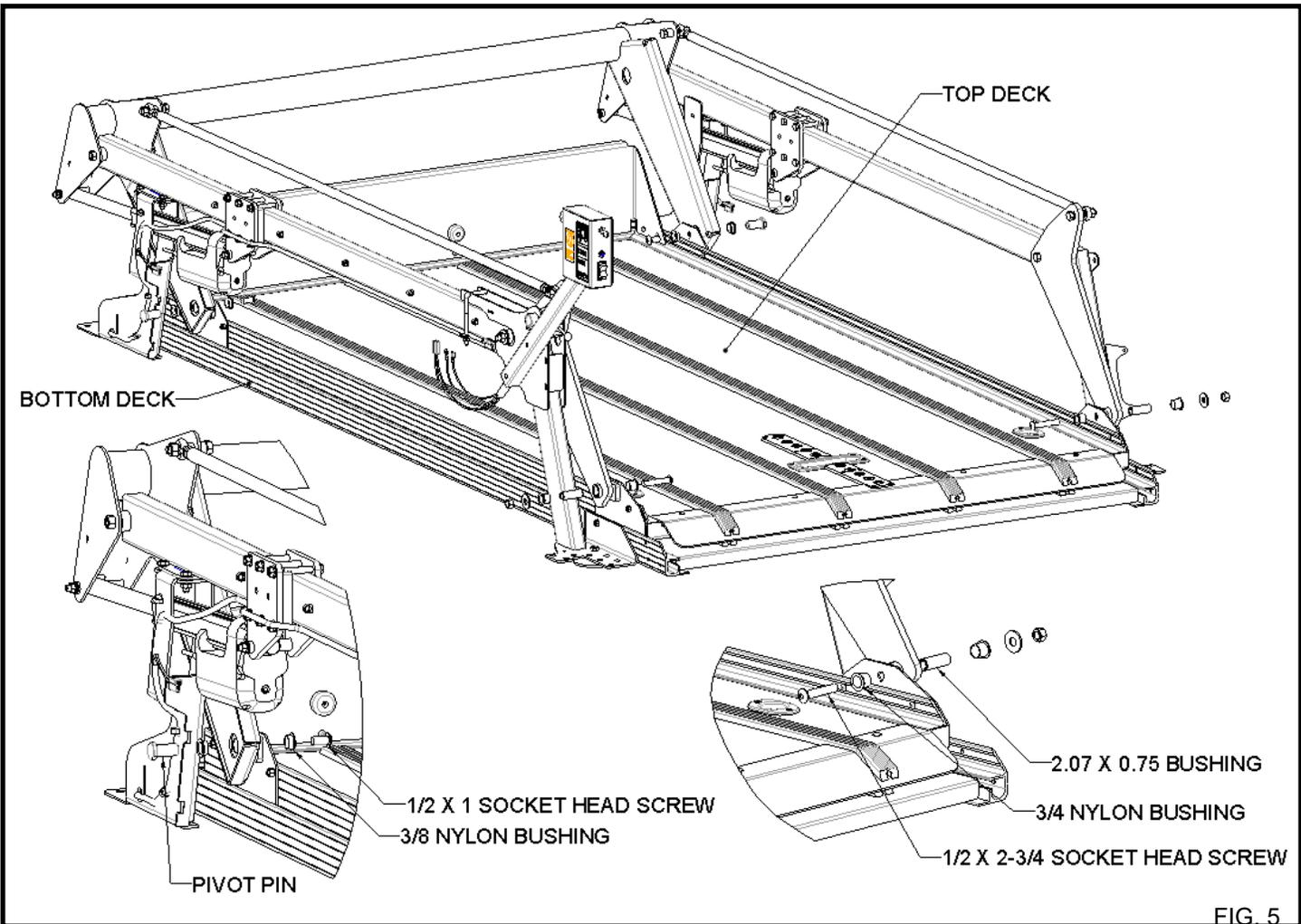


FIG. 5

6.19 Positioning the DD2000 assembly:

Front-to-rear position:

Move the sub-assembly so that the inside of the bottom ramp rests horizontally. This is typically when the lowest bend on the ramp is on the edge of the bumper.

Side-to-side positioning:

**NOTE:** Pay close attention to the control box so that it or any connections are not damaged during positioning.

Position the sub-assembly left and right so that the assembly is centered on the door opening. Align the sub-assembly both by measuring and by visual aligning with the grooves in the floor. Note that side panels may be curved when performing measurements.

 **WARNING**

**It is the INSTALLER's RESPONSIBILITY to do the following:**

- Check underneath vehicle to locate the best fastener location before drilling.
- Verify that they will not interfere with fuel tanks, wiring bundles, or other important vehicle components. Damaging or drilling into vehicle components may create unsafe conditions, or affect the manufacturer's warranty.

6.20 Mark and drill the 4 holes for the 7/16" mounting bolts.

- a. The rear mounts offer multiple holes for the bolt to pass through. Select one location per side that will not interfere with components or structures underneath.
- b. The front mounts offer multiple locations. Use the mount holes as shown in **(FIG.7)** being sure they do not interfere with the fuel or exhaust system and are not positioned over the middle of a frame cross member of the vehicle.

**NOTE:** Use the existing 12MM bolt from the floor to secure the front left corner on Nissan Vans **(FIG. 7)**

c. Notes:



- 1) Secure with (4) 7/16 X 1-1/2 bolts, (4) mounting washers, and (4) 7/16 serrated flange nuts.
- 2) All mounting bolts should drop in from the top.
- 3) The mounting washers offer three holes for securing the DD2000: a center location and two offset locations. Use the hole location that works for the particular install.
- 4) Seal all drilled holes with Sandox etching adhesion primer or similar to prevent corrosion and tighten all bolts.

6.21 Mount the Bier pin storage mount in a location that does not interfere with the operation of the DD2000. Secure the mount using (3) #6 screws. **(FIG.6)**

6.22 Mount the glove holder on the passenger side frame weldment using (2) 1/4 X 1/2 machine screws and (2) 1/4 lock nuts.

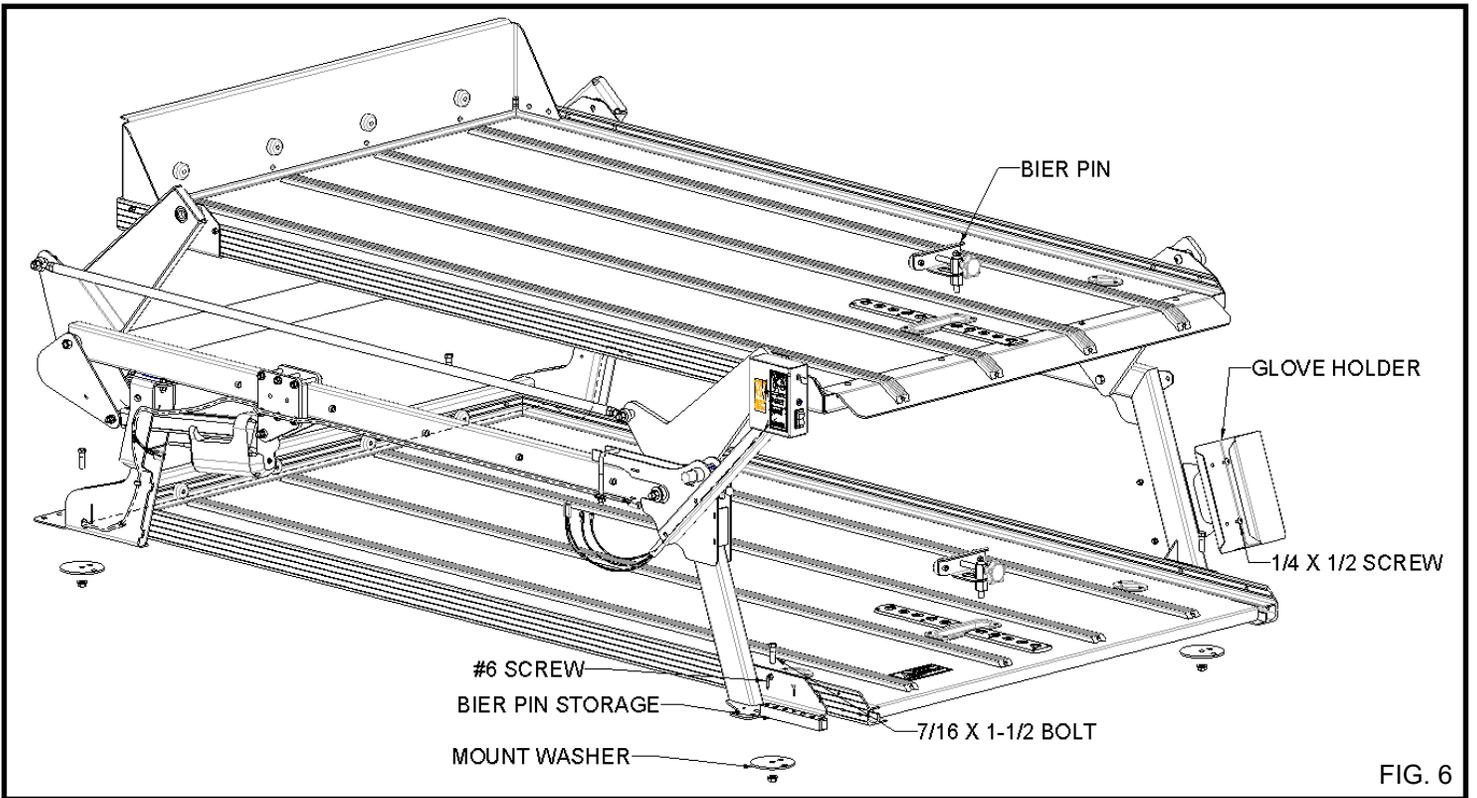


FIG. 6

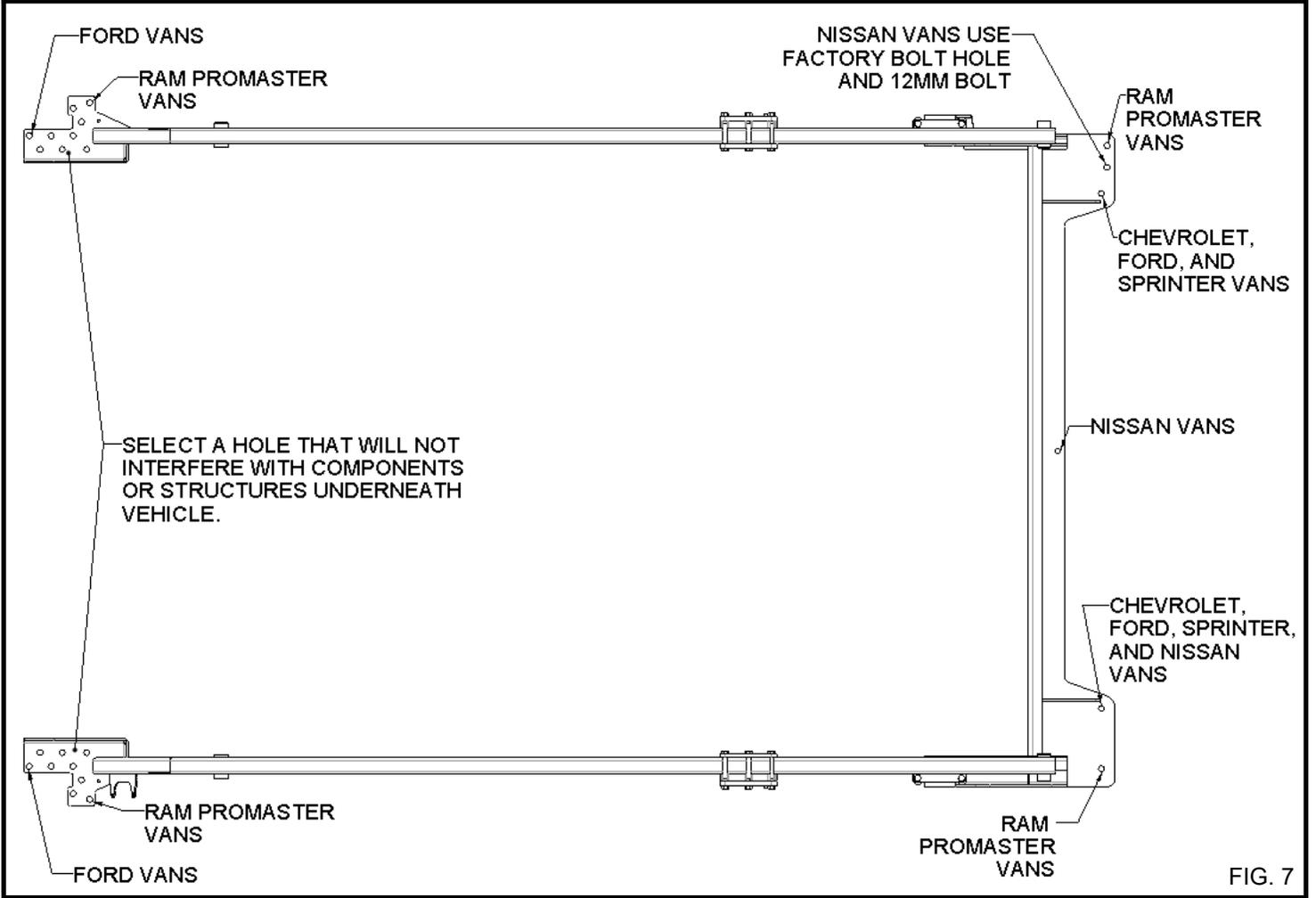


FIG. 7

6.26 Blow out all debris, pay particular attention to moving part interfaces.

6.27 Verify that the top deck raises and lowers properly, that all doors close, electrical connections are properly secured, and all fasteners are properly torqued to the values specified in the torque table. If adjustments are necessary, refer to section 8 on pg. 11.



TORQUE TABLE	
FASTENER	TORQUE
1/4-UNC NUTS	6-8 FT-LBS
5/16-UNC NUTS	18-25 FT-LBS
3/8-UNC NUTS	35-40 FT-LBS
7/16-UNC NUTS	88-70 FT-LBS
1/2-UNC NUTS	80-105 FT-LBS

ELECTRICAL TABLE				
Component	Voltage [V]	Min. Current [A]	Max. Current [A]	Duty Cycle [%]
DD2000	12	9	42	15
*Fan Kit	12	7.9	19.6	100
* - 7802200A Fan Kit not included in the DD2000 kit				

## 7. INSTALLING THE RAMP MOUNTS AND RAMP

The deck is shipped with the two ramp mounts and ramp stop bracket uninstalled. These must be installed before the deck can be used. (See FIG. 8)

- 7.1 Slide the two ramp mount tubes in to the lower deck being sure that the cutout is facing up and placed on the right hand side.
- 7.2 Place (2) 1/4 X 1-1/4 phillips pan head screws through the right side of the lower deck and tighten.
- 7.3 Place (2) 1/4 X 1-1/4 phillips pan head screws through the ramp stop bracket and left side of the Lower Deck side and tighten.
- 7.4 Place (1) 1/4 X 3/4 button head screw facing to the out side of lower deck and (1) lock nut and tighten.
- 7.5 Place the ramp into the left side mount tube. Using gentle pressure snap the ramp into the right side mount tube.

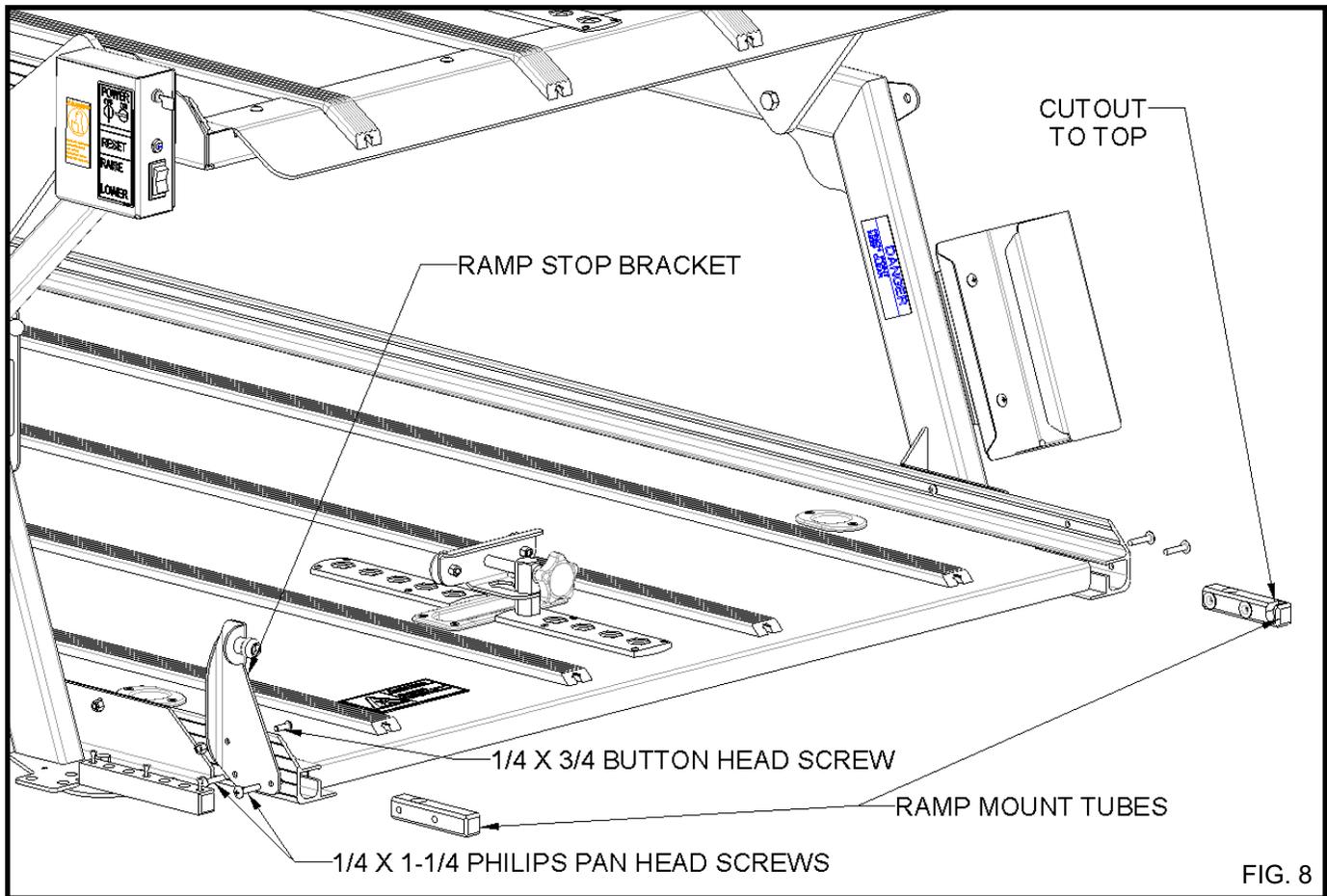


FIG. 8

## 8. ADJUSTING THE DD2000-XLC

There are 2 adjustment systems used by the DD2000-XLC: the tie-rods control the levelness of the deck while the location of the actuator controls the height of the top deck.



To adjust the levelness of the deck using the tie rods:

- 8.1 Raise the top deck to a neutral working position so that it is even with the side frames.
- 8.2 Loosen the jam nuts located on both ends of the two tie-rods. (see **FIG.9**)
- 8.3 With a level placed front-to-rear on the top deck, rotate the body of the tie-rod until the top deck is level, keeping track of how many revolutions are completed. It is best to go in small adjustments (1-2 revolutions), repeating the process until the deck is level.
- 8.4 Adjust the tie-rod on the opposite side of the deck the same number of revolutions.
- 8.5 Raise and lower the deck to verify that no binding occurs.
- 8.6 Tighten the jam nuts on both tie-rods.

To adjust the height of the deck using the actuator:

- 8.7 Loosen the six nuts securing the bolts that hold the actuator mounts in position. **Do not fully remove the nuts.**
- 8.8 To raise the deck, move the actuator rearward.

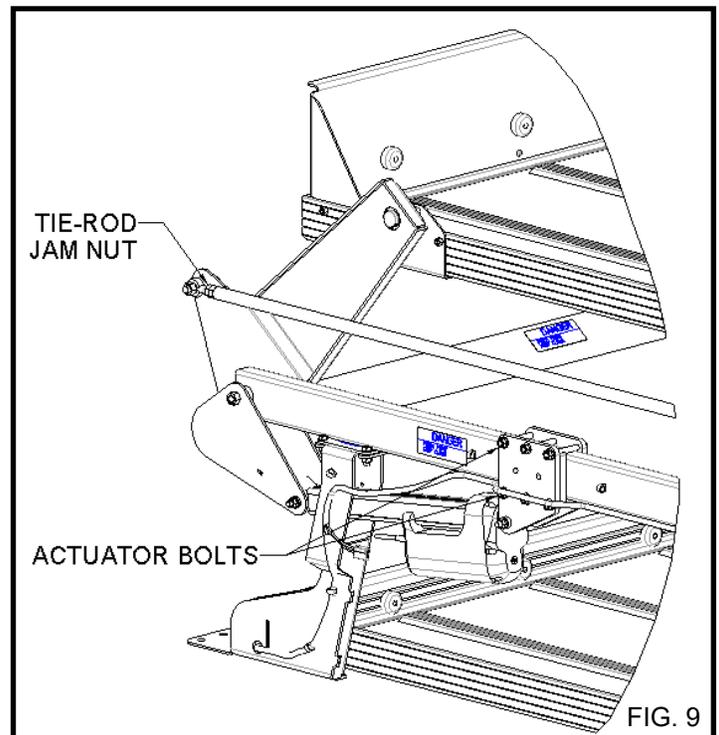
### **WARNING**

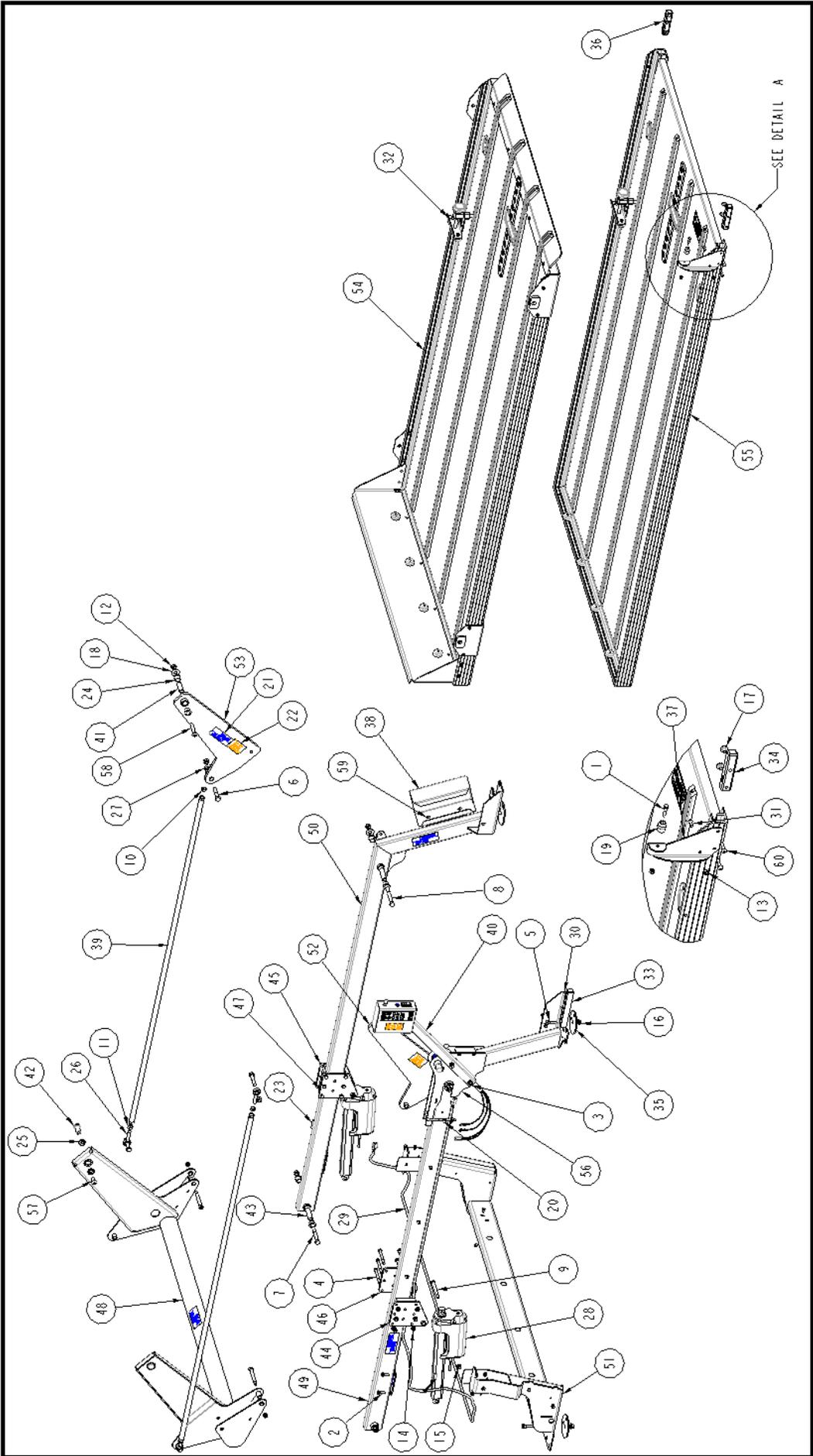
- The top deck will be free to move if both actuator mounts are loosened disconnected from the torsion arm, and **Will Fall if Unsupported.**
- **The deck must be lowered and unloaded before loosening the actuator mounts.**
- Do not loosen the actuator mounts, or remove any actuator pivot bolt with the deck raised and unsupported.

- 8.9 To lower the deck, move the actuator forward. Ensure that the top deck does not contact the bottom deck at the end of the actuator's travel.
- 8.10 Once the top deck reaches the desired height, tighten the nuts on the bolts to the values specified in the torque table on pg 10.

**NOTE:** The actuators must be the same distance from the end of the frame for proper operation. Carefully measure this distance and confirm that both sides are the same before retightening the nuts.

- 8.11 Raise and lower the deck to verify that no interference occurs.





ITEM	PART NUMBER	DESCRIPTION	QTY	ITEM	PART NUMBER	DESCRIPTION	QTY
1	14010810	1/4 X 1 1/4 UNC HEX CAP SCR (GR 5)	1	31	15060033	1/4-20 X 3/4 SOCKET BUTTON HD SS CAP SCREW	5
2	14011208	3/8 X 1 UNC HEX CAP SCR (GR 5)	4	32	15070275	PIN-BIER, ADJUSTABLE	2
3	14011220	3/8 X 2 1/2 UNC HEX CAP SCR (GR 5)	2	33	15070294	BIER PIN HOLDER	1
4	14011226	3/8 X 3 1/4 UNC HEX CAP SCR (GR 5)	12	34	70000027	TUBE-MOUNT, RAMP	1
5	14011412	7/16 X 1 1/2 UNC HEX CAP SCR (GR 5)	4	35	70000031	WASHER-FLOOR SUPPORT	4
6	14011620	1/2 X 2 1/2 UNC HEX CAP SCR (GR 5)	4	36	70000061	TUBE-MOUNT, RAMP	1
7	14011628	1/2 X 3 1/2 UNC HEX CAP SCR (GR 5)	2	37	72240010	BRACKET-STOP, RAMP	1
8	14011632	1/2 X 4 UNC HEX CAP SCR (GR 5)	2	38	72240070	HOLDER-GLOVE BOX	1
9	14300034	SHSCS-.500X3.250	4	39	72241010	TIE ROD WELDMENT	2
10	14751600	1/2 UNF HEX JAM NUT	2	40	72242109	ASSEMBLY-CONTROL BOX, DD2000	1
11	14751601	1/2 UNF HEX JAM NUT LH THREADS	2	41	72260055	BUSHING-PIVOT	2
12	14761600	1/2 UNC HEX CTR LOCK NUT (GR B)	10	42	72260081	PIN-PIVOT	2
13	14780800	1/4 UNC HEX NYLOCK NUT (GR B)	8	43	72260086	PIN-PIVOT	4
14	14801200	3/8 UNC SERRATED FLANGE NUT	18	44	72261002	BRACKET-MOUNT, ACTUATOR OUTSIDE DRIVER	1
15	14801201	3/8 UNC TOP LOCK FL NUT (GR F)	4	45	72261003	BRACKET-MOUNT, ACTUATOR OUTSIDE PASS.	1
16	14801400	7/16 UNC SERRATED FLANGE NUT	4	46	72261004	BRACKET-MOUNT, ACTUATOR INSIDE DRIVER	1
17	14840801	NUT 1/4-20 X 7/16 HT PROPELLER TEE	4	47	72261005	BRACKET-MOUNT, ACTUATOR INSIDE PASS.	1
18	14871600	1/2 TYPE A PLAIN WASHER	4	48	72261006	WELDMENT-BAR, TORSION	1
19	15000006	RAMP HOLDER, MALE END	1	49	72261008	WELDMENT-FRAME, LEFT	1
20	15000302	CLIP-LATCHING	10	50	72261009	WELDMENT-FRAME, RIGHT	1
21	15001311	DECAL-PINCH POINT	7	51	72261011	WELDMENT-CROSSMEMBER	1
22	15001338	DECAL-LOAD CAPACITY 600 LBS.	2	52	72261023	SWING-ARM, REAR	1
23	15001380	LABEL-ID	1	53	72261024	SWING-ARM, REAR	1
24	15040095	BUSHING-PIVOT, NYLON	12	54	72262002	DECK-TOP	1
25	15040098	BUSHING-PIVOT, NYLON, 3/8	4	55	72262003	DECK-BOTTOM	1
26	15040100	ROD END-SPHERICAL, LEFT HAND	2	56	72262009	LATCH-KIT, DD2000	1
27	15040101	ROD END-SPHERICAL, RIGHT HAND	2	57	142C1608	1/2 X 1 UNC SOCKET BUTTON HD CAP SCR	2
28	15040314	ACTUATOR, 12V, 300MM STROKE, 6800N	2	58	142C1622	1/2 X 2 3/4 UNC SOCKET BUTTON HD CAP SCR	2
29	15051986	HARNES-ACTUATOR	1	59	144C0804	1/4 X 1/2 UNC TRUSS HD PH MACH SCR, SS	2
30	15060006	#6 X 1 DRYWALL SCREW W/ DRILL POINT	3	60	144C0810	1/4 X 1 1/4 UNC TRUSS HD PH MACH SCR, SS	4



LINK MANUFACTURING, LTD.  
223 15TH ST. NE  
SIOUX CENTER, IA 51250  
1-800-248-3057