

Original Series Cargo Van Lift Mounting Instructions

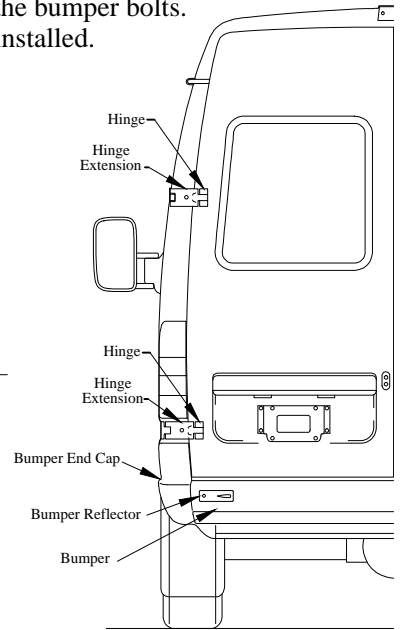
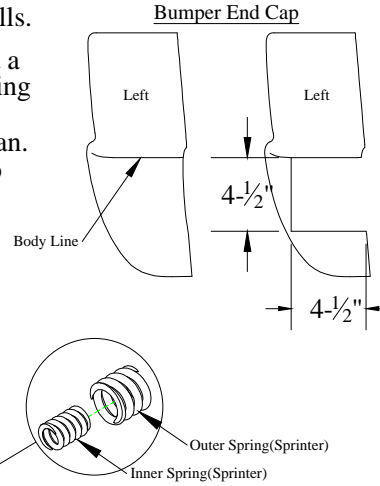
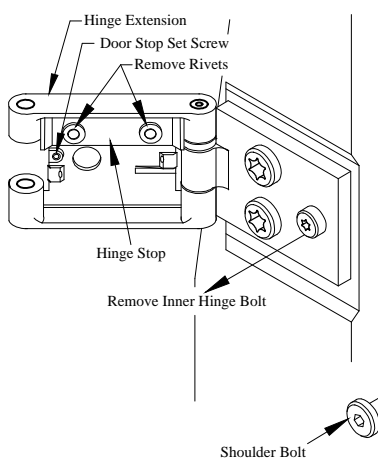
Full Size Sprinter Vans(US)-
2002-2006

P-350
Part# 5735

Step 1. Remove the reflectors that are located in the rear bumper. This will provide access to the bumper bolts. Unbolt the bumper and remove. The bumper cannot be remounted after the liftgate is installed.

Step 2. Remove the taillights for access to the inner van walls.

Step 3. Remove the bumper end caps from the bumper. Cut a 4-1/2" square notch out of each bumper end cap, using the body line as a guide and starting point. Reinstall the bumper end caps on each side of the van. They will slide in the factory receiver and then snap into place.



Step 4. Open both rear doors and remove the inner hinge bolt from each hinge. The bolts will not be reused. Remove the hinge stop from each hinge extension by removing the two rivets that hold the hinge stop in place.

Step 5. Insert the supplied shoulder bolt through the hole in the hinge extension. Place the inner and outer springs over the shoulder bolt. Push the hinge extension closed aligning the shoulder bolt with the threaded hole in the van body. Tighten the shoulder bolt to 20ft-lb with a 5mm allen wrench. Close the doors.

-If the door requires excessive force to close, perform the following:

- Open the door.
- Loosen the door stop set screw one turn at a time. A fraction of a rotation may be required for final adjustment.

NOTE: Test close the door after each rotation of the set screw.

- Close the door and verify that no daylight can be seen around the door seal from the inside of the van.

-If daylight can be seen around the closed door seal, perform the following:

- Open the door.
- Tighten the door stop set screw one turn at a time. A fraction of a rotation may be required for final adjustment.

NOTE: Test close the door after each rotation of the set screw.

- Close the door and verify that no daylight can be seen around the door seal from the inside of the van.

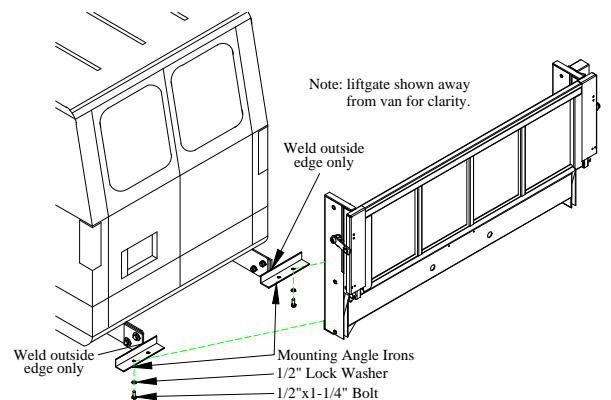
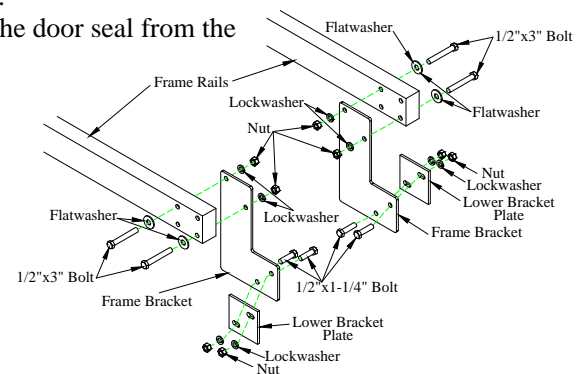
Step 6. Bolt the (2) frame brackets to the inside of the frame rails, using the supplied 1/2"x3" bolts, flatwashers, lock washers, and nuts.

Step 7. Bolt the (2) lower bracket plates to the (2) Frame brackets using (4) 1/2"x1-1/4" bolts, (4) 1/2" lock washers, and (4) 1/2" nuts. The lockwashers should be on the slot side to prevent sliding.

Step 8a. Install the (2) mounting angle irons on the bottom of the liftgate using the supplied (2) 1/2" x 1-1/4" bolts and (2) lock washers. Nuts have been welded inside the liftgate to accept the bolts. Select the holes in the liftgate that position the mounting angle irons adjacent to the truck frame rails.

Step 8b. Position the liftgate exactly centered behind the van with the bottom of the liftgate 12-3/4" below the bed of the truck. Be sure not to obstruct the two-screw connector through which the electrical cable will be pulled. If an obstruction occurs, you may need to drill or cut a hole in the truck bed to allow for proper connection of the cable. Weld the angle irons in this position, being sure the lower brackets are flat against the angle irons.

NOTE: When welding to mounting angle irons, weld only on the outside edge of lower bracket plates.



Original Series Cargo Van Lift Mounting Instructions Continued

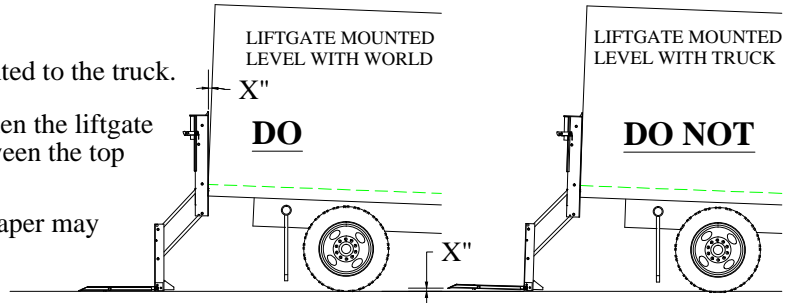
Full Size Sprinter Vans(US)-
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NOTE: The liftgate must be correctly leveled when mounted to the truck.

Step 8c. Level the liftgate to the world, not to the truck. When the liftgate is leveled correctly there could be a small gap between the top of the liftgate and the truck body.

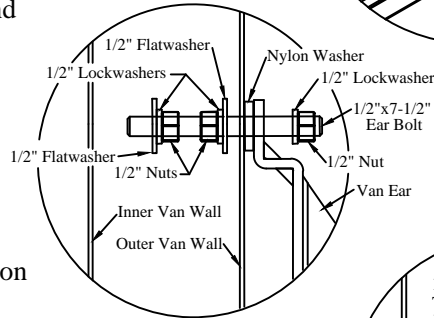
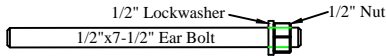
If the liftgate is not correctly leveled the platform taper may not touch the ground when the liftgate is lowered.



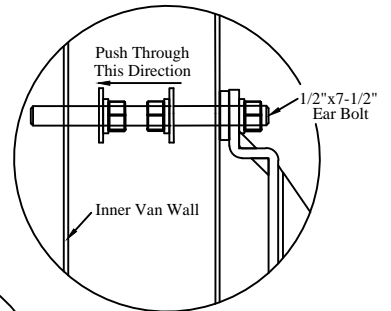
Step 9. Position the gate so the uprights are vertical (perpendicular to the ground). Position the two mounting ears on top of the uprights. Rotate the ear to match the contour of the van and leave a 1/4" gap between the van body and the ear for the nylon washer. Weld the mounting ears securely to the top of the uprights.

Step 10. Using the holes in the ears as a guide and aiming for the center of the inner van wall, drill (2) 1/2" diameter holes through the van body. Check for obstructions before drilling.

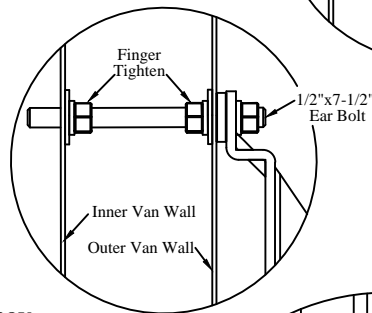
Step 11. Place a 1/2" lock washer on the 1/2"x7-1/2" ear bolt and then start a 1/2" nut on the ear bolt.



Step 12. Insert the 1/2"x7-1/2" ear bolt through the van ear, nylon washer and the outer van wall. Leave the 1/2"x 7-1/2" ear bolt sticking out between the inner and outer van walls. Place a 1/2" flat washer and 1/2" lock washer on the ear bolt. Thread on two 1/2" nuts. Place a 1/2" lock washer and 1/2" flat washer on the ear bolt. Push the assembly so the ear bolt goes through the inner van wall.

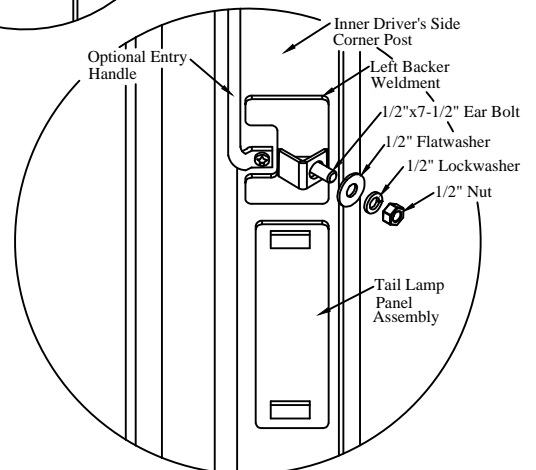


Step 13. Finger tighten the 1/2" nuts between the inner and outer van walls. This configuration will keep the inner and outer walls of the van from crushing when tightening the outer nuts. This configuration should also provide some protection if the user backs into something accidentally with the gate. Do not tighten the liftgate ear until step 16.



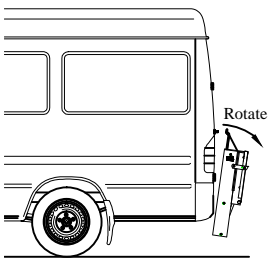
Step 14. Reinstall the rear taillights. The liftgate may need to be rotated forward for clearance.

Step 15. Attach the backer plate weldment to the 1/2"x7-1/2" ear bolt with a 1/2" flatwasher, lockwasher and nut as shown. The backer plate weldments are notched to clear the optional entry handle.



Step 16. Tighten all 1/2" bolts and nuts to 75 foot pounds if possible. Be careful not to dent or crease the exterior body panel when tightening the exterior nut on the van ear.

Step 17. See the wiring and final assembly instructions to complete the install of the liftgate.

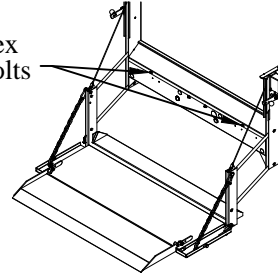


Original Series Wiring and Final Assembly Instructions for Cargo Vans

Step 1. The liftgate should be lowered to the ground so the box cover can be removed to finish the installation of the liftgate. To lower the liftgate, attach 12 volts to the red positive(+) cable from a battery (no battery chargers). To activate the control, push the hidden "POWER ON" switch(located half way between the Tommy Gate logo and the up decal) once and the amber "POWER ON" LED will illuminate. Now press the hidden button on the control(located under the Tommy Gate logo) twice within one second and the red "LIFTGATE ACTIVATED" LED will illuminate. Once both lights are illuminated you will have power to lower the liftgate. Lower the liftgate to the ground. Remove the mainframe box cover by taking out the 5/16" hex head bolts. Packaged inside the mainframe are the following:

- Operator's manual
- License plate lights
- Vent plug
- Two latch balls with studs
- 150 Amp Manual Reset Circuit Breaker
- Copper lugs
- License plate nuts and screws
- Padlock with keys
- Drop away pin

(2) 5/16" Hex Head Bolts



Step 2. Remove the circuit breaker and copper end lugs from the mainframe. Install the circuit breaker on the firewall or fender of the truck or other place in the engine compartment out of the way of moving parts. Make sure there is easy access for installation of the power cables and so the circuit breaker can be reset.

The liftgate electrical cables are coiled up in the bottom of the mainframe. Loosen the strain relief on the back of the liftgate mainframe. Carefully pull the cables through the strain relief, leaving approximately two inches of slack inside the liftgate mainframe. Tighten the strain relief.

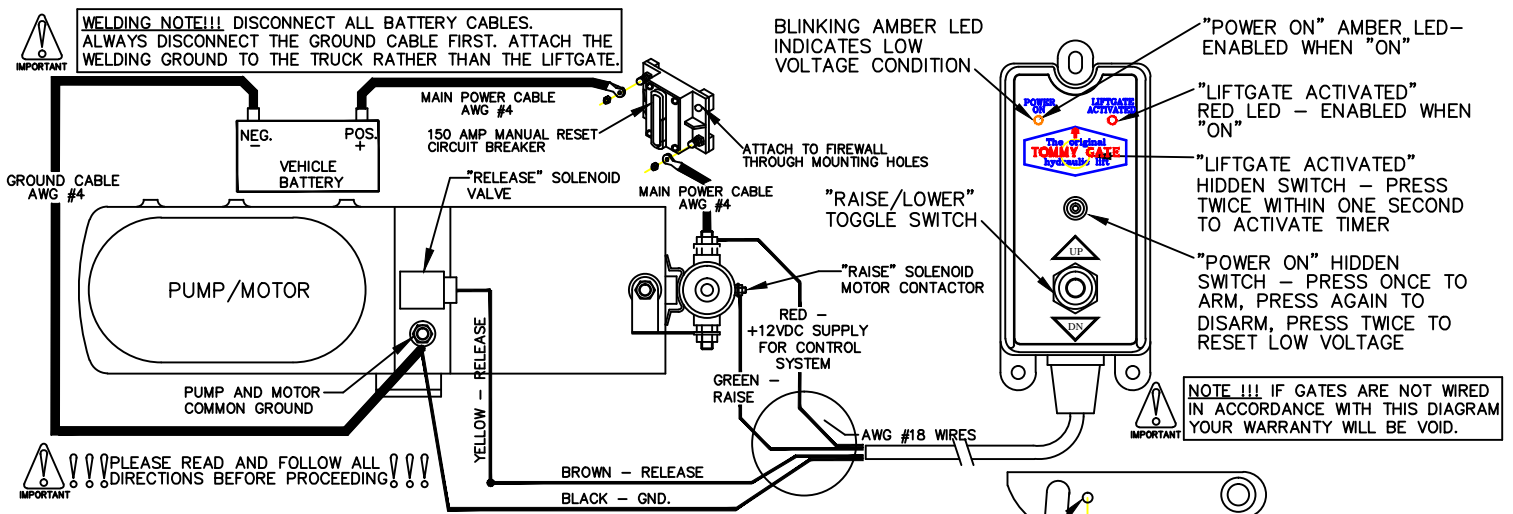
Carefully route the cables according to the Tommy Gate Electrical Guidelines along the frame to the battery. Pull the excess cables beyond the battery, and separate the positive (+) and negative (-) leads. Cut the positive (+) lead to the length required to reach the auxiliary (AUX) terminal of the circuit breaker. The remaining positive (+) lead needs to be cut at the length required to span the distance from the circuit breaker battery (BAT) terminal to the positive battery terminal.

Cut the negative (-) lead to the length required to reach the negative battery terminal. Install copper lugs on all required ends and attach to the circuit breaker and battery as outlined in the Tommy Gate Electrical Guidelines and wiring diagram.

To activate the control, push the hidden "POWER ON" switch(located half way between the Tommy Gate logo and the up decal) once and the amber "POWER ON" LED will illuminate. Now press the hidden button on the control(located under the Tommy Gate logo) twice within one second and the red "LIFTGATE ACTIVATED" LED will illuminate. Once both lights are illuminated you will have power to raise and lower the liftgate.

NOTE: The safety control will automatically shut off if not used for 90 seconds.

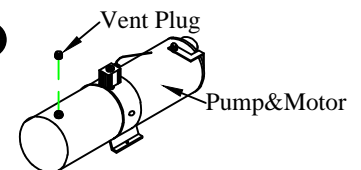
IMPORTANT: The pump and motor unit for this lift can require up to 205 Amps of electrical power at 12 volts D.C. Be sure you connect the negative(-) cable to the negative(-) terminal of the vehicle battery.



Step 3. Install the two knobs on the platform latches.

3/8" Threaded Hole
3/8" Stud and Knob

Step 4. Remove the solid plastic plug from the reservoir and screw in the vent plug provided. The hydraulic system has already been filled with the proper amount of hydraulic oil so do not add any oil at this time.



Step 5. Install the license plate lights in the holes provided. Wire the license plate lights by running the wire through the strain relief in the back of the mainframe and then connect to the truck's existing wiring. In some instances you may need to splice additional wire to the license plate lights in order to reach the connection point. NOTE: All electrical splices should be heat shrunk for corrosion protection.

Step 6. Reinstall the box cover on the mainframe.

Step 7. Test the operation of the liftgate:

- a) Check operation of the safety control for proper lift operation. Be sure the control shuts off automatically after 90 seconds of not being used.
- b) Raise and lower an unloaded platform on a flat surface looking for proper operating speed and alignment with the ground.
- c) Load the platform with the rated capacity and measure the time necessary to raise the platform. The platform should reach bed height within a 20-second time interval.
- d) Examine the platform for any downward creep.
- e) With the platform still loaded, time the lowering operation. The load should take at least 1/2 seconds per inch of bed height to reach the ground.
- f) Remove the load from the platform and examine the liftgate and truck for any problems such as hydraulic oil leaks, loose wiring, etc.

Step 8. Your Tommy Gate has been primed with a white polyurethane and painted with a black semi-gloss polyurethane topcoat to protect it from the environment. No additional paint is required unless shipping or installation damage or outdoor storage exposure has deteriorated the Tommy Gate paint. **Tommy Gate will not be responsible for shipping or installation damage or outdoor storage exposure that has marred or otherwise deteriorated the Tommy Gate paint.**

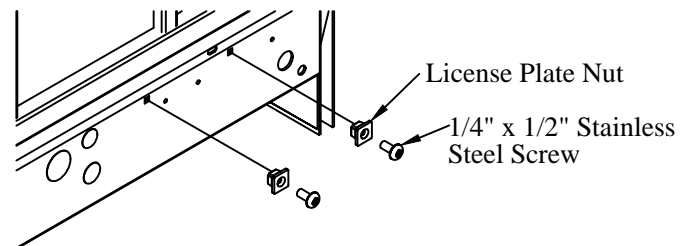
If you need to refinish the liftgate you should do the following:

Remove any dirt, oil, grease, salt, or other contamination by washing with a mild detergent solution. Rinse thoroughly with fresh water and allow to dry. Lightly scuff sand the Tommy Gate topcoat.

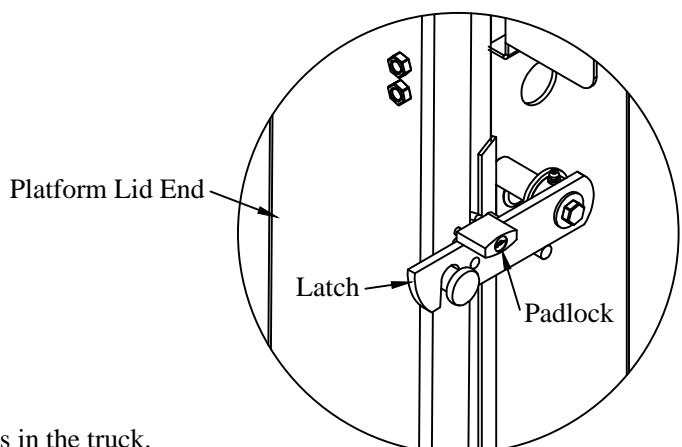
If prolonged exposure, shipping, or other installation damage has deteriorated the Tommy Gate paint, it will be necessary to sand and spot prime the area(s) prior to finish coating. Mask off all safety decals, cylinder shafts and vents before painting. After proper cleaning and surface preparation apply desired finish coat per paint manufacturer's recommendations.

Remove the masking from the safety decals and cylinders. **Make sure all decals are clean and legible.** Additional decals are available from the factory, if needed. **Paint overspray on the cylinder shaft(s) or vent(s) will damage the cylinder seals and void warranty.**

Step 9. Push the license plate nuts into the square holes in the box cover, then use the stainless steel screws to mount the license plate.

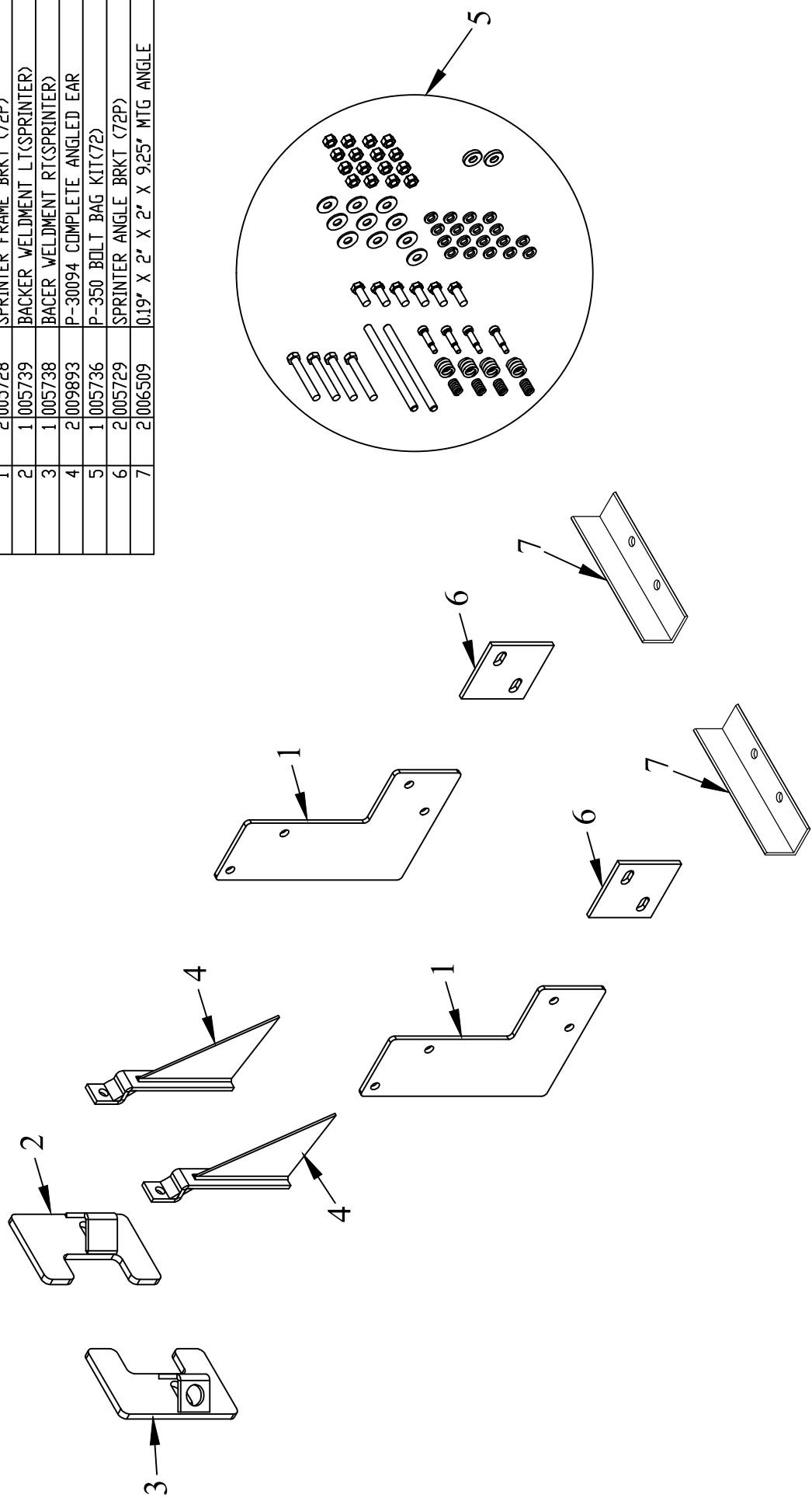


Step 10. With the platform closed and in the latched position, lock the padlock through the hole in the platform.



Step 11. Place the Owner's/Operator's Manual, and padlock keys in the truck.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	1005728	SPRINTER FRAME BRKT (72P)
2	1	1005739	BACKER WELDMENT LT(SPRINTER)
3	1	1005738	BACER WELDMENT RT(SPRINTER)
4	2	009893	P-30094 COMPLETE ANGLED EAR
5	1	1005736	P-350 BOLT BAG KIT(72)
6	2	1005729	SPRINTER ANGLE BRKT (72P)
7	2	1006509	0.19' X 2' X 2' X 9.25' MTG ANGLE



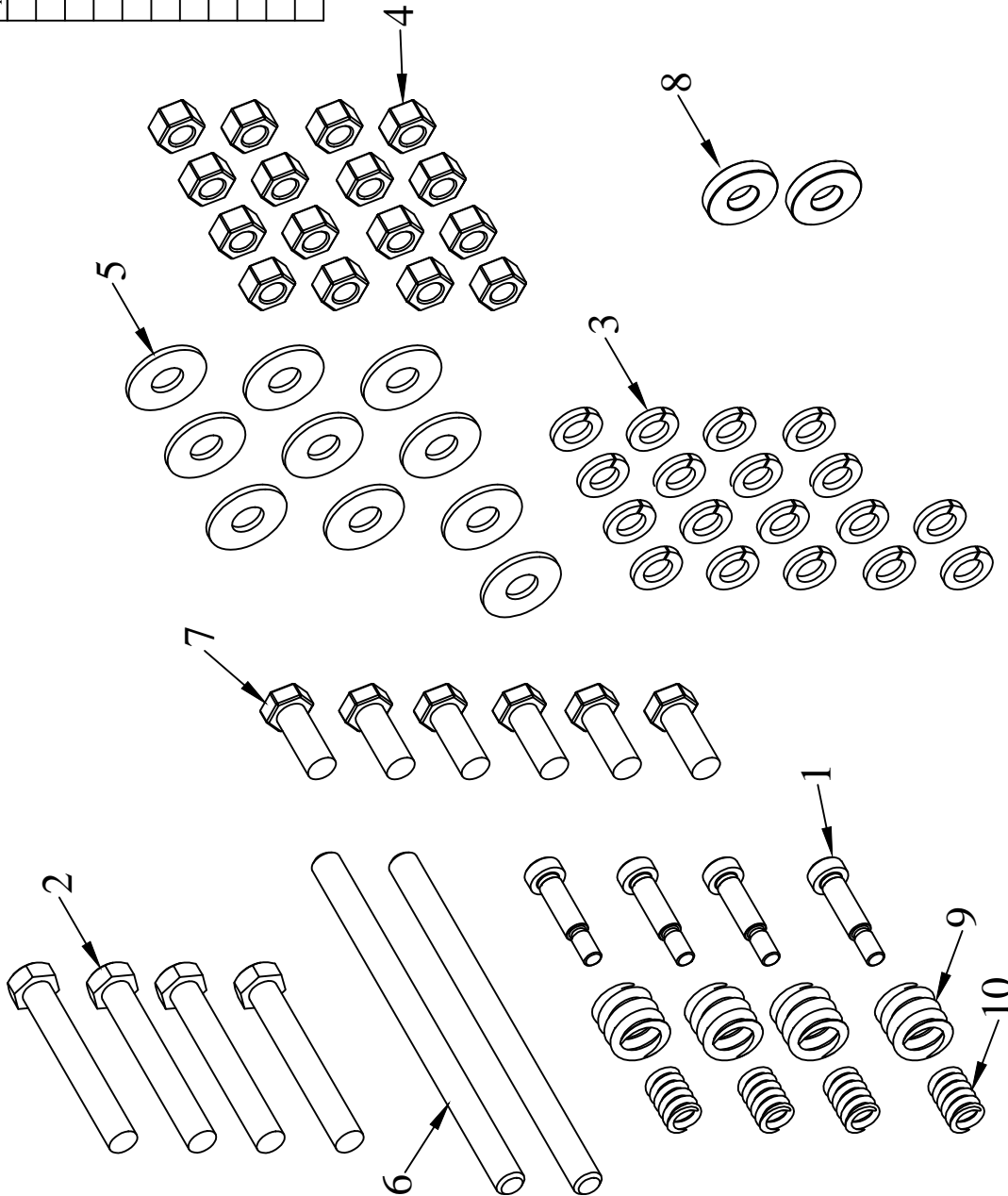
REV.	DATE	BY	APPVD	ECN	DESCRIPTION
D	4/29/10	JCB		297	ADDED (2) 6509
C	5/29/07	KGJ	KGJ		UPDATED BOM
					CHANGE RECORD

THIRD ANGLE PROJECTION		FILENAME:	
	DECIMAL	SYMBOLY PER	ANSI Y14.5
MACHINE	2 PLC 3 PLC	DRAWN BY	DJR
SAW-DRILL	.030 .015	DRAWN/DATE	5/21/04
SHEAR PUNCH FORM	.060 .030	APPVD/DATE	
FORCH. WELDING ROUGHCAST	.090 .060	SALES CATEGORY	P-350 MOUNTING KIT
DRAFT 2°	ANGULAR ±1°	PRODUCT LINE	N
		SCALE	N
		FIN. WT.	24.3

WOODBINE MFG. CO.	712-647-2050	
BUS BROWN DRIVE	WOODBINE, IOWA 51579	
THE INFORMATION HERE IS CONFIDENTIAL AND MUST NOT BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF WOODBINE MFG.		

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ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	4	005732	SPRINTER HINGE BOLT
2	4	000525	1/2-13x3-1/2"HC5 GR5
3	18	000573	1/2" SPRING LOCK WASHER
4	16	000551	1/2-13 GRADE 5 HEX NUT
5	10	000576	1/2" USS FLAT WASHER
6	2	000530	0.5" X 7.5" EAR BOLT (P200-92)
7	6	000521	1/2-13x1-1/4" HC5 GR5
8	2	007609	NYLON WASHER (64P)
9	4	005733	OUTER SPRING (SPRINTER)
10	4	005734	INNER SPRING (SPRINTER)
11	1	095038	P-350 INSTALLATION INSTRUCTIONS



FILENAME:		THIRD ANGLE PROJECTION		SYMBOLY PER ANSI Y14.5		NOTES:	
				DECIMAL MACHINE 2 PLC 3 PLC		DRAWN BY: DJR	
		.030 SAW, DRILL PUNCH FORM		.015 SHEAR PUNCH FORM		DRAWN/DATE 5/06/04	
		.090 TORCH, WELDING ROUGHCAST		.060 DRAFT 2°		APPVD/DATE 12/23/08	
		ANGULAR ±1°		SALES CATEGORY 45		TITLE P-350 BOLT BAG KIT(72)	
A		12/23/08		ADDED PN 95038		PRODUCT LINE 8600	
REV.		DATE		CHANGE RECORD		FIN. WT. 4.63	
				BY JCB		PART NO. 5736	
				APPVD JCB		ECN	

WOODBINE MFG. CO.
BUS BROWN DRIVE
WOODBINE, IOWA 51579

712-647-2050

The original hydraulic lift
TOMMY GATE

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WIRE ROUTING

- (1) When routing wires, avoid heat (above 180°F), abrasion, vibration, metal edges, screws, and trim fasteners. If such routings are not possible, protective devices must be used. If wires must cross a metal edge, the edge should be covered with a protective shield and the wiring fastened within 3 inches on each side of the edge.
- (2) Grommets must be used where wires pass through holes in sheet metal, castings, and / or frame rails. Do not bend wires in a radius smaller than 10 times the wire diameter.
- (3) Routing wires into areas exposed to wheel wash should be avoided. If this cannot be avoided protective shields are required to protect the wires from stones, ice, salt and water damage. Provide a drip loop to prevent moisture from being conducted into switches, relays, circuit breakers, and fuses.
- (4) Wires should be supported every 18 inches with plastic zip ties or rubber-lined clips.
- (5) Wires must be routed to clear moving parts by at least 3 inches unless positively fastened or protected by a conduit. If wiring must be routed between two members where relative motion can occur, the wiring should be secured to each member, with enough wire slack to allow flexing without damage to the wire.
- (6) Maintain at least a 6 inch clearance from exhaust system components. If this is not possible, high temperature insulation and heat shields are required. Existing OEM heat shields, insulation, and wire shielding must be maintained.
- (7) Do not route or attach electrical wires to fuel lines. Route electrical wires at least 1-1/2 inches away from the engine.

BATTERY, WIRE, TERMINALS, AND CONNECTORS

- (1) Wire attachments at the battery must be protected from tension loads so there is no undue strain on the battery terminals. Wires should be routed down rather than horizontally from the terminals with no sharp bends adjacent to the connections.
- (2) Battery power for your Tommy Gate should come directly from the battery through the supplied circuit breaker or fuse. The circuit breaker or fuse should be installed as close to the battery as possible.
- (3) Do not splice battery cables. If splicing is necessary, the most durable splice joint will be bare metal barrel crimped, flow-soldered and covered with adhesive lined heat shrink tubing. Strip the wire ends making sure that individual conductor strands are not damaged. Use only rosin core solder, proper crimping tools, and wire with a gauge at least equivalent to the circuit being lengthened. Do not use electrical tape.
- (4) Battery cable terminals will be bare metal barrel crimped or flow-soldered and covered with adhesive lined heat shrink tubing.
- (5) Use wire connectors with locking features such as positive locking, inertia locking, bolt together, and soft mold-over with locking external retainers.

GENERAL

- (1) All frame contact areas must be wire brushed to bare metal, free of paint, dirt, and grease. Frame connections must be made using hardened flat washers under the bolt head and lock nuts. Corrosion preventive grease or compound is to be applied to the terminal area of the frame connection.
- (2) Frame cross members are not recommended as part of the ground return.
- (3) All circuit breakers and fuses should be located in one easily serviceable location with a means provided for identification of circuit function and current rating. Do not put circuit breakers or fuses in the vehicle cab.
- (4) Before welding to the chassis disconnect the battery. Also disconnect the power train, engine, valve, and transmission control modules.
- (5) Do not alter vehicle ignition, starting, and / or charging systems. Do not reroute engine compartment wiring.
- (6) Full copper circuitry and standardized polarity grounds are recommended.
- (7) Never increase the rating of a factory installed fuse or circuit breaker.
- (8) Disconnect the battery negative (ground) wire prior to any vehicle modification.

Following the above guidelines will provide you with years of trouble free service. Failing to incorporate the above guidelines will result in a voided warranty. Non-compliance with the guidelines above may result in a failure of electrical components, shutdown of engines, loss of backup brake systems, and the possibility of fire.