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Installation Instructions
Tow Bar Kit
Part # 87450

Read and understand instructions entirely before installing this product. It is recommended to have this product installed by an experienced shop/installer familiar with correct towing mounting areas and strength requirements. Only use with 2" hitch balls.
Installers please give instructions/manual to customer

Parts Included	Qty
Tow Bar	1
Bumper Bracket /Backing Plate	2 ea
D-Ring Mount Bracket	2
Pivot Bracket	2
Coupler Pin	1
Quick Release Pin	2

Parts Included	Qty
1/2" x 3" Hex Bolt/Washer/Nut	2ea
1/2" x 1 3/4" Hex Bolt/Washer/Nut	4ea
1/2" x 3 1/2" Hex Bolt/Washer/Nut	2ea
D-Ring Mount Spacer	2
1/2" x 3" Hex Bolt/Washer/Nut	2ea
1/2" x 2 1/2" Hex Bolt	2



Note: This kit comes with 1 pair of safety chains that connect front of tow bar to towing vehicle it is recommended and required by law in most states to also have safety chains from tow bar to vehicle being towed. Check local law requirements before us.

Universal Bumper Mount Bracket

Step 1: Locate an adequate and rigid mounting area. Center the tow bar with the surface you will be mounting on. Spread the arms of the tow bar (at least 24" not over 32") Use the bumper brackets as a template to mark the hole locations. Mark and drill the holes out using a 1/2" drill bit. (Fig A, B) Torque to 80 ft. lbs.



(Fig A)



(Fig B)



(Fig C)

Step 2: Secure the brackets to mounting surface using the included 1/2" x 1 3/4" hardware (Fig C). Run bolts through brackets then through bumper (mounting surface) and then through included backing plates.

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Step 3: Install pivot bracket onto ends of tow bar arms using the included $\frac{1}{2}$ " x $3\frac{1}{2}$ " hardware. (Fig D) Tighten until nut is secure on bottom of swivel bracket. **Note:** Do not torque, tow bar should be able to slightly move. Attach pivot bracket to main bracket using the $3\frac{1}{2}$ " bolts or pin bolts. (Fig E)



Check these bolts frequently to make sure they are not become loose. The coupler should be within 5 degrees level with the mounting point on vehicle being towed.

Step 4: After both arms are attached to the brackets, tighten the 4 nuts that hold the arms to the front. Torque to 40 ft. lbs. (Fig F)



(Fig D)



(Fig E)



(Fig F)

Step 5: Safety chains must be mounted to the vehicle towing. Attach safety chains to tow bar arms using the included U-bolts and nuts. U-bolts mount from the outside and secured on the inside of each arm. The quick link end of the chain goes towards the end that would attach to the vehicles. Cross the front chains under the coupler and connect to towing vehicle. It is recommended to connect chains to the vehicle being towed to the frame as close to the front of the vehicle as possible looping them also. Leave enough slack in order for turning and pivoting of tow bar..

Note: It is recommended to only use the quick release pins for short trips or yard hauling. For long towing use the included 3" bolts.

Step 6: Attach a wiring harness from towing vehicle to towed vehicle so that the brake and turn signal lights work in conjunction together.

Note: Adjust coupler on ball with $\frac{3}{4}$ " wrench/socket, (Fig 3) until firm contact between ball and coupler is established. Due this while coupler is in locked position. Coupler latch must be secured with included double wire snap pin. (Fig 1, 2)

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Step 7: Make sure all fasteners /bolts are secure and all correct connections made. Read and understand warning label below and vehicles manufacture towing rules and requirements. Always use caution when towing.



(Fig 1)



(Fig 2)



(Fig 3)

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D-Ring Mount Bracket

Step 1: Attach D-Ring mount brackets to the end of the tow bar arms using the included 1/2" x 3 1/2" hardware. (Fig J) Tighten until nut is secure on bottom of swivel bracket. **Note:** Do not over torque, tow bar arms.

Step 2: Attach tow bar to d-ring mounts on your bumper by placing spacer in d-ring then placing clamp over d-ring and using the 2 1/2" bolts" bolts. (Fig I, J, K)

Note: Make sure your d-ring mounts have been tested and are rated to be used as a towing point.
ALL Smittybilt bumpers have been tested and approved for towing use. Not all manufacturers bumpers have been tested and rated.

Step 3: Follow steps 4-7 above for completion of installation.



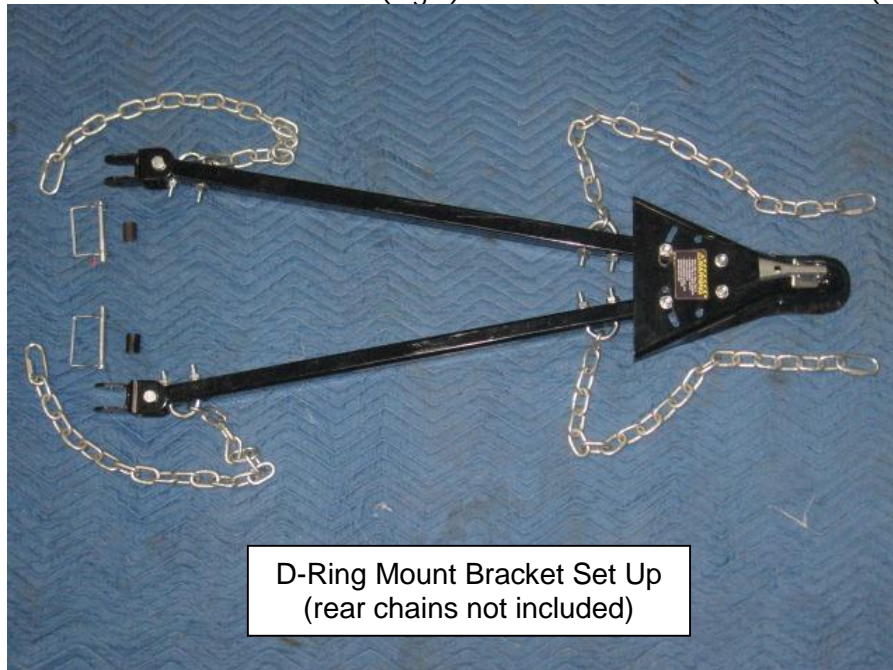
(Fig I)



(Fig J)



(Fig K)



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- Verify all connections before and after each use, check for loose bolts, pins
- Weight TOTAL of vehicle towed can not exceed 5,000Lbs
- Towing vehicle must weigh more than vehicle being towed
- Remove tow bar when not in use
- Do not tow with passengers in vehicle being towed
- Towed vehicle steering must be free to turn, do not tow vehicles that have drivetrain, suspension or steering damage
- Do not exceed 55 mph
- Read manual and make sure tow bar is installed properly before each use failure to do so can cause serious bodily and/or property damage
- Towed vehicle should have operational brake and turn signal lighting. If not ,temporary lighting should be used
- Caution; towing a vehicle will increase the time and distance it takes stop. Allow more time for stopping and increase distance between vehicles while on the road.
- Use caution when making turns. Be aware of vehicle being towed
- Always follow vehicles towed and towing owners manual for towing recommendations and rules
- Do not exceed the lowest rating of any part of the towing platform/system.
- Only use a 2" ball that is rated for at least 5,000Lbs
- Always connect safety chains properly
- Make sure vehicle being towed tires are fully inflated
- Never drive towed vehicle with tow bar still attached
- At anytime you feel unstable or abnormal swaying, immediately pull over safely and inspect setup. Decreasing speed may decrease instability, if it persists discontinue towing.

- If using tow bar with Smittybilt Gen 2 Bumpers or Atlas front bumpers (Part # 76807,76724, 76892) use Smittybilt tow bar adapter brackets part #87451



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Note: Some actual parts may vary slightly from what is pictured. Pictures are for your reference and guidance.

1. Frequently check hardware and keep manual in glove box
2. Torque bolts, be sure to check and regularly do this.

Bolt Torque and ID						
Decimal System			Metric System			
All Torques in Ft. Lbs. Maximums						
Bolt Size	Grade 5	Grade 8	Bolt Size	Class 9.8	Class 10.9	Class 12.9
5/16	15	20	M6	5	9	12
3/8	30	45	M8	18	23	27
7/16	45	60	M10	32	45	50
1/2	65	90	M12	55	75	90
9/16	95	130	M14	85	120	145
5/8	135	175	M16	130	165	210
3/4	185	230	M18	170	240	290

1/2-13x1.75 HHCS

D T L X

Grade 5

G

Grade 8

G

M12-1.25x50 HHCS

D T L X

10.9

P

G = Grade (Bolt Strength)
D = Nominal Diameter (Inches)
T = Thread Count (Threads per inch)
L = Length (Inches)
X = Description (Hex Head Cap Screw)

P = Property Class (Bolt Strength)
D = Nominal Diameter (Millimeters)
T = Thread Pitch (Thread Width, mm)
L = Length (Millimeters)
X = Description (Hex Head Cap Screw)

Limited Warranties

Smittybilt's products are covered under the following limited warranties only. Note that the duration of the limited warranty differs according to the material and finish of the product purchased. Subject to the duration and conditions of the limited warranty stated below, Smittybilt warrants to the original retail purchaser that its products are free from defects in material and workmanship. All other warranties and representations express or implied, are hereby disclaimed, including fitness for merchantability and buyer's intended use or purpose. All parts are sold "AS IS" except for the limited warranties granted herein. Buyer assumes all risks as to the selection, suitability and performance of all goods and products selected. This limited warranty does not cover damage or impairment in any part due to misuse, improper installation, accident or contact with on-road or off-road hazards, product modification, improper or inadequate cleaning and/or maintenance. Smittybilt is not responsible for items damaged during shipping. This warranty is not transferable from the original buyer. For the original Buyer to be eligible for the limited warranty coverage, the Buyer must provide proof of purchase. Smittybilt strongly recommends returning the warranty registration card.

Customer's remedy hereunder shall be limited only to repair or replacement (at Smittybilt's option) of any defective part(s) returned to Smittybilt at customer's expense. The determination of whether or not a returned part is defective or subject to coverage under the limited warranties stated herein shall be made at Smittybilt's sole discretion.

To assure product quality, Smittybilt reserves the right to change product design, material, specification and finishes without prior notice to customers. This limited warranty gives you specific legal rights and you may also have other rights, which may vary from state to state. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply as to you. Also, some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. Smittybilt reserves the right to discontinue product lines and substitute products, or provide other remedies than those listed in this limited warranty for those discontinued products.

Warning

Rollover and other types of vehicle accidents may result in serious injury or death to you, your passengers and others sharing the road. Smittybilt accessories are decorative and are not intended to reduce or avoid injury or damage in the event of an accident. The weight and location of Smittybilt accessories may affect your vehicles' handling, stability and performance, creating an increased risk of accident or rollover. Before installing any accessory, check state laws and assure that the accessory will not obscure any lights or interfere with proper operation on your vehicle's safety equipment. Consult your owner's manual and the Smittybilt instructions, or additional safety information. Smittybilt products, nor the warnings contained herein, are not a substitute for your safe driving. Don't drink and drive, always use seat belts and don't drive faster than conditions permit.

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