

SECTION 8

TRAILER HITCHES, TOW BAR AND HELPER SPRINGS

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TRAILER HITCHES

GENERAL

Heavy-duty vehicle springs and shock absorbers are required with Class II and III trailer hitches when the tongue weight exceeds 200 pounds.

INSTALLATION

Class I—Cherokee-Wagoneer Models

Class I trailer hitches are limited to a maximum gross load weight of 2000 pounds and a maximum tongue weight of 200 pounds. This class hitch is available for 1976 through 1978 models only. The attaching bolt holes are pre-punched.

WARNING: The quality of the bolts, nuts, lockwashers and flat washers used for attaching trailer hitches to vehicles is extremely important. To ensure safe towing operations, the attaching hardware must be SAE Grade 5 or better and the size/threads per inch as specified. If in doubt about the grade of bolts being used for installation, refer to the Standard Torque Specifications and Capscrew Markings Chart. Also, the specified tightening torque must be employed to ensure continuing security of the hitch attachment to the vehicle. If a torque value is not listed, refer to the Torque Specification and Capscrew Markings Chart to determine the applicable tightening torque for the bolt grade, size and threads per inch.

(1) Lower spare tire for access to inner sides of crossmember and frame.

(2) Remove undercoating from surfaces where hitch attaches to crossmember and frame.

(3) Place trailer hitch in position on vehicle (fig. 8-1). Ensure hitch is centered and that bolt holes align.

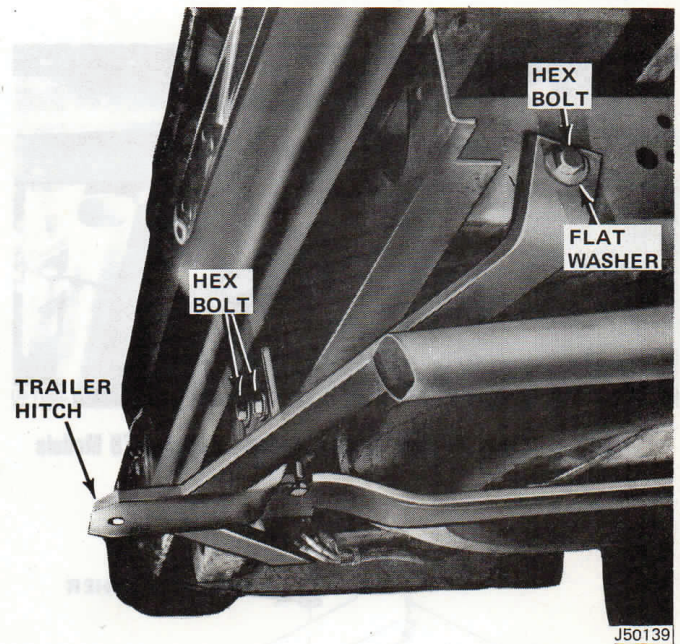


Fig. 8-1 Class I Trailer Hitch Installed

(4) Attach hitch with 1/2-13 x 1-3/4-inch hex-head bolts, flat washers, lockwashers and hex nuts. Tightening torque is 75 foot-pounds (102 N•m).

(5) Raise spare tire and secure bracket to vehicle.

Class II—Cherokee-Wagoneer Models

Class II trailer hitches are limited to a maximum gross load weight of 3500 pounds and a maximum tongue weight of 400 pounds. This class hitch is available for all 1976 and later models. The attaching bolt holes are pre-punched

WARNING: The quality of the bolts, nuts, lockwashers and flat washers used for attaching trailer hitches to vehicles is extremely important. To ensure safe towing operations, the attaching hardware must be SAE Grade 5 or better and the size/threads per inch as specified. If in doubt about the grade of bolts being used for installation, refer to the Standard Torque Specifications and Capscrew Markings Chart. Also, the specified tightening torque must be employed to ensure continuing security of the hitch attachment to the vehicle. If a torque value is not listed, refer to the Torque Specification and Capscrew Markings Chart to determine the applicable tightening torque for the bolt grade, size and threads per inch.

(1) Remove undercoating from surfaces where hitch attaches to crossmember and frame.

(2) Place trailer hitch in position on vehicle (fig. 8-2 and 8-3). Ensure hitch is centered and that bolt holes align.

(3) Attach hitch with 1/2-13 x 1-3/4-inch hex-head bolts, flat washers, lockwashers and hex nuts. Tightening torque is 75 foot-pounds (102 N•m).

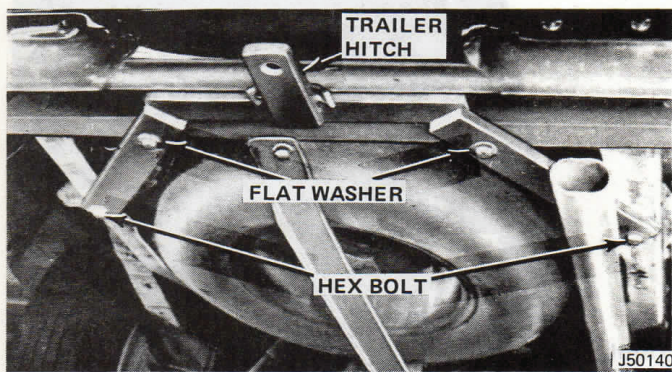


Fig. 8-2 Class II Trailer Hitch Installed—1976-1978 Models

Class III—Cherokee-Wagoneer Models

Class III equalizing hitches are limited to maximum gross load weight of 7000 pounds and maximum tongue weight of 750 pounds. This class hitch is available for all 1976 and later models. The attaching bolt holes are pre-punched.

WARNING: The quality of the bolts, nuts, lockwashers and flat washers used for attaching trailer hitches to vehicles is extremely important. To ensure safe towing operations, the attaching hardware must be SAE Grade 5 or better and the size/threads per inch as specified. If in doubt about the grade of bolts being used for installation, refer to the Standard Torque Specifications and Capscrew Markings Chart. Also, the specified tightening torque must be employed to ensure continuing security of the hitch attachment to the vehicle. If a torque value is not listed, refer to the Torque Specification and Capscrew Markings Chart to determine the applicable tightening torque for the bolt grade, size and threads per inch.

(1) Lower spare tire and remove bracket securing bolt.

(2) Remove undercoating from surfaces where hitch, support brackets etc. attach to vehicle frame.

(3) Loosely install left and right side support brackets with 5/8-13 x 1-1/2-inch hex-head bolts, flat washers, lockwashers and hex nuts. Insert spacers between brackets and frame (fig. 8-4).

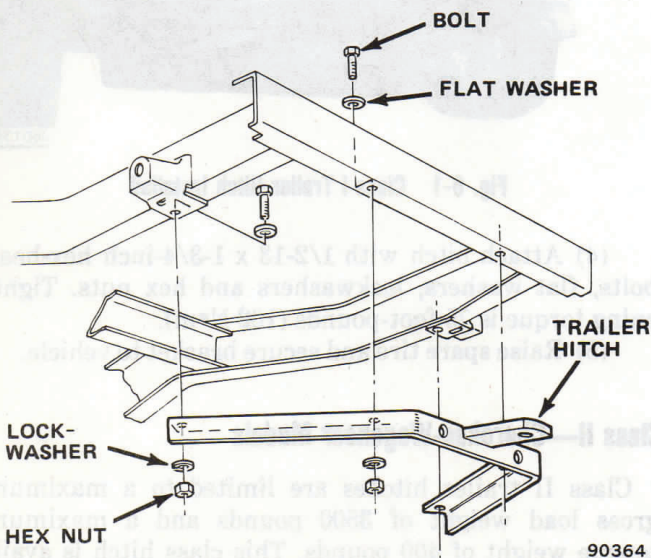


Fig. 8-3 Class II Trailer Hitch—Current Models

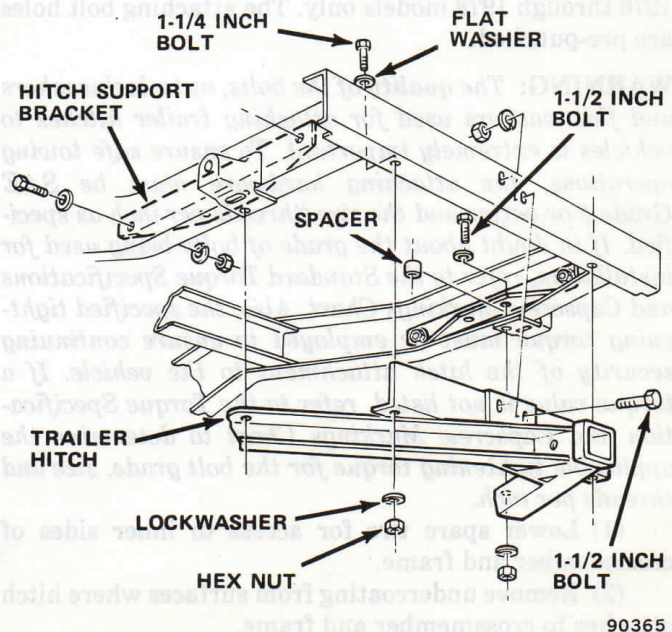


Fig. 8-4 Class III Hitch

(4) Position hitch on vehicle and loosely attach to side support brackets and frame with 1/2-13 x 2-1/2-inch hex-head bolts, flat washers, lockwashers and hex nuts (fig. 8-4).

(5) Loosely attach hitch to crossmember with 1/2-13 x 1-1/2-inch and 1-1/3 x 1-1/4-inch (fig. 8-4) hex-head bolts, flat washers, lockwasher and hex nuts.

(6) Center, align hitch and tighten all hex nuts. Tightening torque is 75 foot-pounds (102 N•m) for 1/2-inch bolts and 150 foot-pounds (203 N•m) for 5/8-inch bolts.

(7) Raise spare tire and secure bracket to vehicle.

TOW BAR

GENERAL

The tow bars described in this section meet federal requirements for private, non-commercial towing of vehicles with a gross weight of less than 3500 pounds (1588 kg). They do not, however, meet Federal Department of Transportation requirements for interstate commerce drive-away or tow-away operations. Tow bars are available for all CJ models.

INSTALLATION

(1) Assemble tow bar and brackets as depicted in figure 8-5. Ensure shorter bracket legs are used for pivots. The self-locking nuts are snug tightened only onto the 1/2-13 x 1-3/4-inch bolts. Use 7/16-14 x 1-1/2-inch bolts for securing chain to tow bar and vehicle grille.

(2) Position tow bar brackets on bumper, center horizontally and vertically, mark locations for bolt holes, centerpunch and drill four 17/32-inch holes.

(3) Attach tow bar to bumper with 1/2-13 x 1-1/2-inch bolts, lockwashers and nuts. Tightening torque is 75 foot-pounds (102 N•m).

CAUTION: Tow bar must be stowed in upright position when vehicle is not being towed.

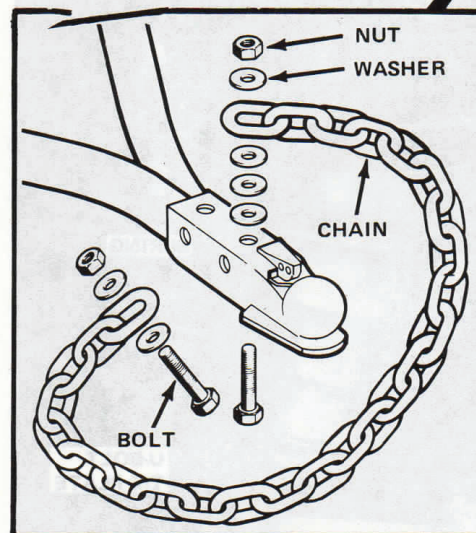
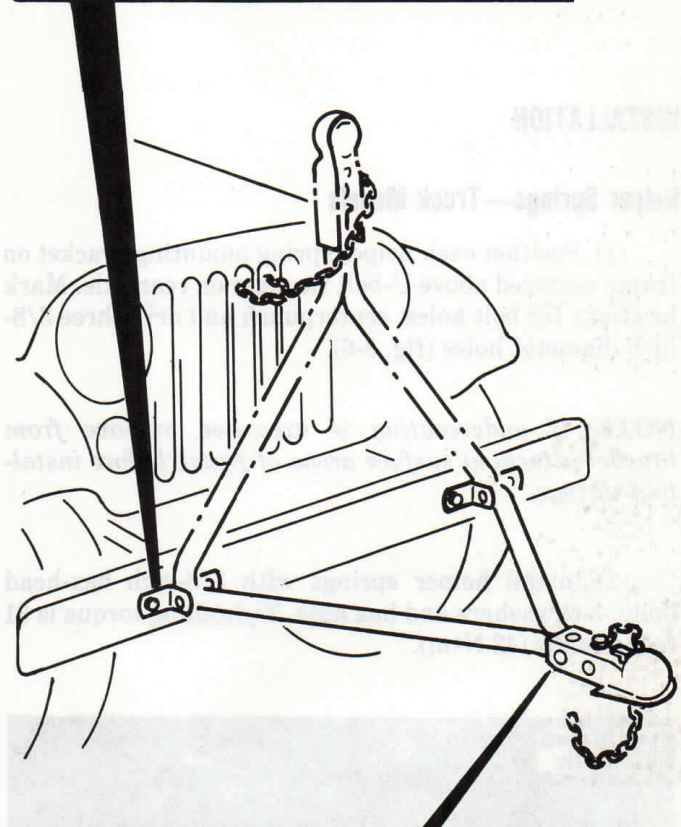
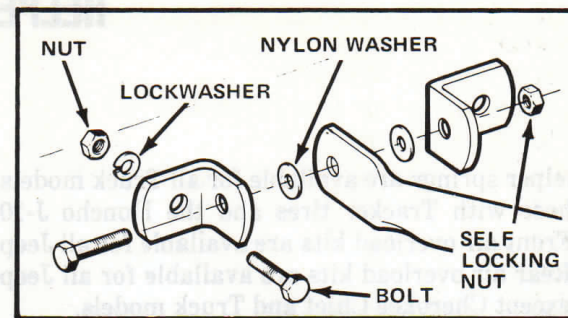


Fig. 8-5 Tow Bar Installation

HELPER SPRINGS

GENERAL

Rear helper springs are available for all Truck models except those with Tracker tires and the Honcho J-10 models. Front air overload kits are available for all Jeep models. Rear air overload kits are available for all Jeep vehicles except Cherokee Chief and Truck models.

INSTALLATION

Helper Springs—Truck Models

(1) Position each helper spring mounting bracket on frame centered above U-bolt tie plate on rear axle. Mark locations for bolt holes, centerpunch and drill three 3/8-inch diameter holes (fig. 8-6).

NOTE: If undercoating is excessive, remove from bracket attaching surface areas of frame before installing springs.

(2) Install helper springs with 3/8-inch hex-head bolts, lockwashers and hex nuts. Tightening torque is 31 foot-pounds (42 N•m).

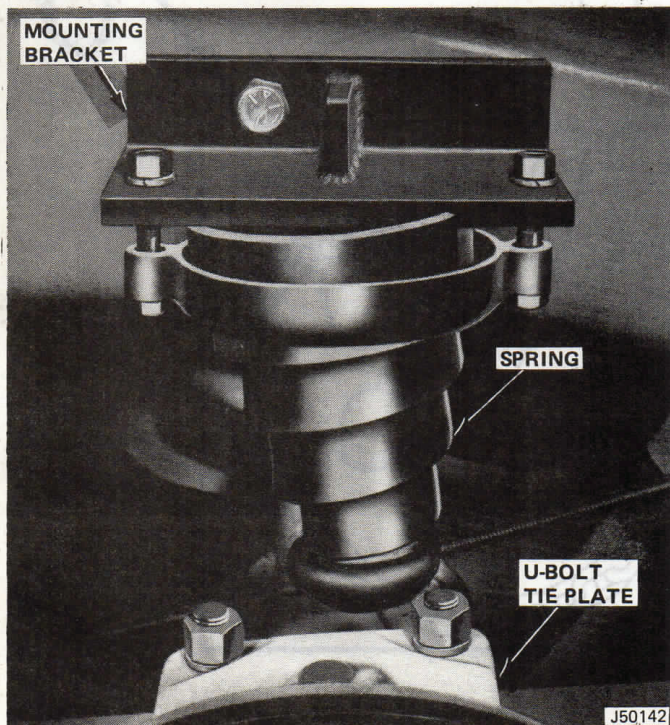


Fig. 8-6 Installed Helper Spring—Truck Models

Air Overload Kit (Front)—CJ Models

(1) Raise vehicle, remove front wheels and lower axle 2 to 3 inches to allow working space.

(2) Remove shock absorbers.

(3) Remove spring clamp bar and position Air Overload Spring assembly so that it straddles vehicle spring approximately 3 inches aft of axle U-bolts. Replace clamp bar and finger-tighten nuts (fig. 8-7).

(4) Raise axle or lower body until air spring bracket contacts frame. With unit vertically aligned and bracket in contact, mark location for 2 mounting holes through center front and aft holes in bracket.

(5) Repeat steps (3) and (4) on opposite side of vehicle. Lower axle and remove air overload springs.

(6) Centerpunch marked hole locations and drill 1/4-inch diameter holes. Remove excessive undercoating.

(7) Position each unit for final installation, raise axle or lower body until spring brackets contact frame and attach each bracket to frame with 2 self-tapping bolts. Tighten securely.

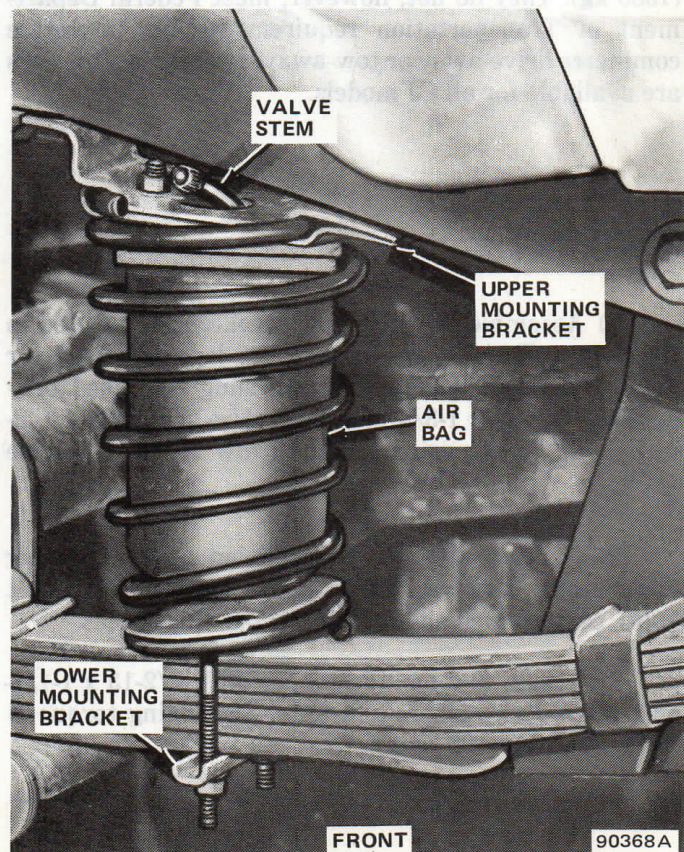


Fig. 8-7 Front Air Overload Spring—CJ Models

(8) With each unit aligned vertically, install clamp bars and tighten nuts securely.

(9) Place 3 flat washers on top and bottom shock absorber mounting studs. Replace shock absorbers and secure with retaining nuts and washers.

(10) Check distance between shock absorbers and air springs. Minimum clearance is 1/2 inch.

NOTE: Do not inflate air springs before reading inflation instructions.

Air Overload Kit (Front)—Cherokee-Wagoneer-Truck Models

(1) Raise vehicle, remove front wheels and lower axle 2 to 3 inches to allow working space.

(2) Remove spring clamp bar and position air overload assembly so that it straddles vehicle spring approximately 3 inches aft of axle U-bolts. Replace clamp bar and finger-tighten nuts (fig. 8-8).

(3) Raise axle or lower body until air spring bracket contacts frame. With unit vertically aligned and bracket in contact, mark location for 2 mounting holes through center front and aft holes in bracket.

(4) Repeat steps (2) and (3) on opposite side of vehicle. Lower axle and remove air overload springs.

(5) Centerpunch marked hole locations and drill 1/4-inch diameter holes. Remove excessive undercoating.

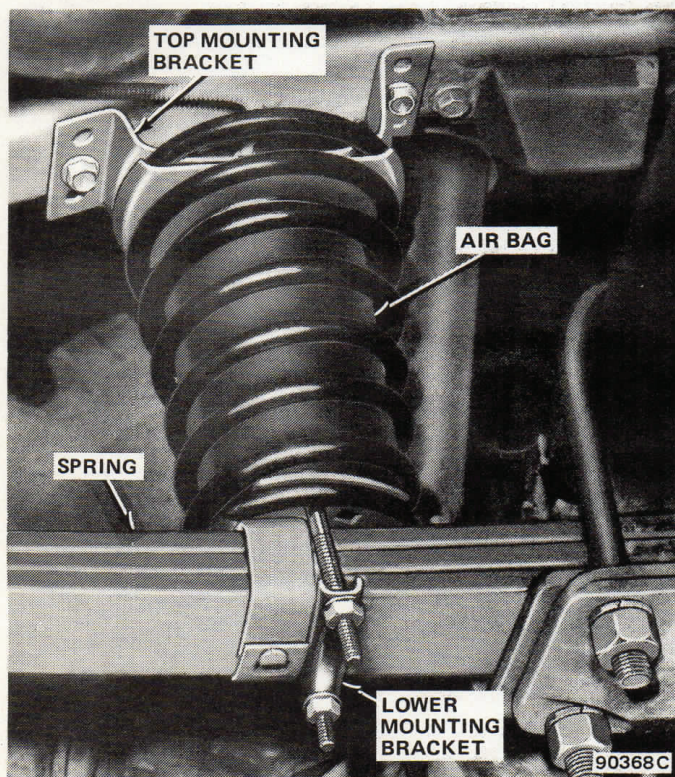


Fig. 8-8 Front Air Overload Spring—Cherokee-Wagoneer-Truck Models

(6) Position each unit for final installation, raise axle or lower body until spring brackets contact frame and attach each bracket to frame with 2 self-tapping bolts. Tighten securely.

(7) With each unit aligned vertically, install clamp bars and tighten nuts securely.

NOTE: Do not inflate air springs before reading inflation instructions.

Air Overload Kit (Rear)—CJ-Cherokee-Wagoneer Models

(1) Raise vehicle, remove rear wheels and lower axle 2 to 3 inches to allow working space.

(2) Remove spring clamp bar and position air overload assembly so that it straddles vehicle spring approximately 2 inches aft of axle U-bolt. Replace clamp bar and finger-tighten nuts (fig. 8-9).

(3) Raise axle or lower body until air spring bracket is adjacent to frame. With unit vertically aligned and bracket centered on frame, mark location for 4 mounting holes.

(4) Repeat steps (2) and (3) on opposite side of vehicle. Lower axle and remove air overload springs.

CAUTION: Ensure fuel lines and electrical wires are away from hole drilling areas.

(5) Centerpunch marked hole locations and drill 3/8-inch diameter holes. Remove excessive undercoating.

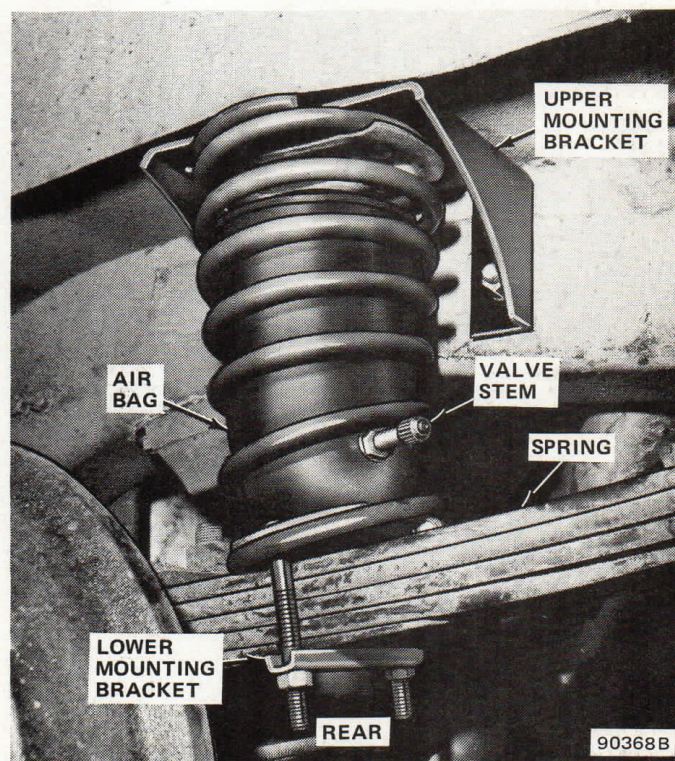


Fig. 8-9 Rear Air Overload Spring (Typical)—CJ-Cherokee-Wagoneer Models

(6) Position each unit for final installation, raise axle or lower body until spring bracket and frame holes are aligned and attach brackets to frame with bolts, lockwashers and nuts. Tightening torque is 31 foot-pounds (42 N•m).

(7) With each unit aligned vertically, install clamp bars and tighten nuts securely.

(8) Attach extension air hoses to spring air valve and route to pre-punched holes located in underside of each end of rear bumper. Secure hoses with nylon ties so that they will not be chafed or pinched.

(9) Install flat washer, insert threaded ends of hose through holes, secure with nuts, and install protective caps.

NOTE: Do not inflate air springs before reading inflation instructions.

Air Overload Spring Inflation Instructions

Initial

The **maximum** air pressure for air overload springs is 25 psi, the minimum is 4 psi.

(1) With vehicle lowered from lift and being supported by all four wheels, inflate each air spring cylinder to 20 psi air pressure.

(2) Check all valve cores, fittings and connections for leaks with liquid soap solution. Correct as necessary.

(3) Deflate cylinders to a minimum of 4 psi air pressure.

CAUTION: Always maintain at least 4 psi air pressure to prevent chafing of cylinders.

Load Leveling

(1) Inflate air cylinders to a maximum of 25 psi air pressure.

(2) Load vehicle.

(3) Deflate air cylinders until vehicle is level.

CAUTION: Never attempt to raise a loaded vehicle by inflating air cylinders. If vehicle is loaded, level with jacks and then inflate cylinders to desired air pressure. Adjust level after removing jacks.

