

AIR LIFT 1000



MN-130
(16809)
ECN6529

Multiple Applications – See special notes and Figures 1, 2 and 3 for your particular vehicle.

Please read these instructions completely before proceeding with the installation.

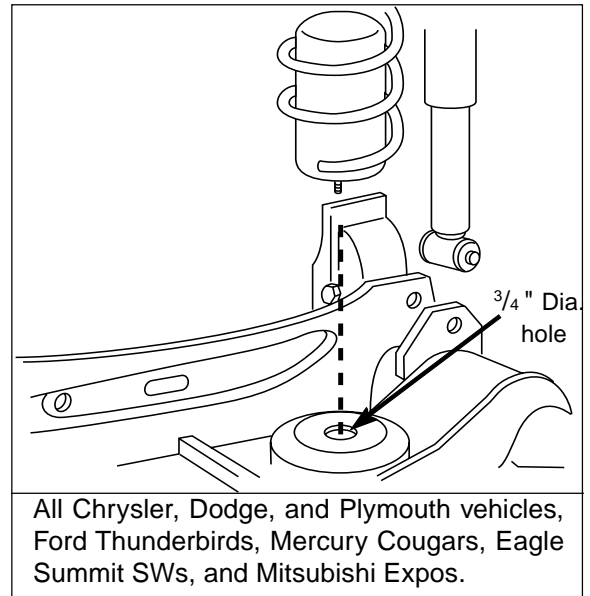
1. Jack up rear of vehicle or raise on hoist. Support frame with safety stands. Lower axle or raise body of vehicle until suspension is fully extended.
2. Remove plastic cap from barbed stem on end of cylinder. Exhaust the air from the cylinder by rolling it up toward barbed stem on the end of the cylinder. Replace the cap on the stem to hold flattened shape.
3. Follow the steps below for the specific make of your particular vehicle.

a. For Thunderbirds, Cougars, Chrysler, Dodge, Plymouth only:

- (1) If the vehicle is *NOT* a Thunderbird or Cougar, then remove lower shock absorber attaching bolts, lower axle, and remove coil springs noting location of the end of the coil spring in the lower spring seat. If the vehicle is a Thunderbird or Cougar, then the coil spring should *NOT* be removed. Proceed with step (2).
- (2) Cut out the template provided.
Thunderbird or Cougar: Cut on Line "D"
Chrysler, Dodge, or Plymouth: Cut on Line "B"
- (3) Stick the template on the underside of the lower spring seat with a dab of grease.
- (4) Centerpunch and drill $\frac{3}{4}$ " diameter hole. Remove all burrs and sharp edges (Figure 1).
- (5) Cut off exposed portion of rubber jounce bumper within $\frac{1}{2}$ inch of metal cup (Figure 2). It may be necessary to dull the corners of the metal cup with a file. *NOTE: The '92-'94 Thunderbird and Cougar are not equipped with a rubber jounce bumper.*
- (6) Insert air cylinder into coil spring with stem at bottom. Push the cylinder up within the coil by hand or with a blunt instrument such as a spoon-type tire iron.
- (7) When the cylinder is completely within the coil, remove the cap and allow the cylinder to assume its "as molded" shape. For Thunderbirds or Cougars skip to step (9), otherwise continue on to step (8)
- (8) For Chrysler, Dodge, or Plymouth: With the air cylinder stem down (Figure 1) install coil springs into spring seats and rotate to proper location. Attach lower shock absorber attaching bolts. Torque to 25 ft-lbs.
- (9) Continue with air line installation on pages 2-4.

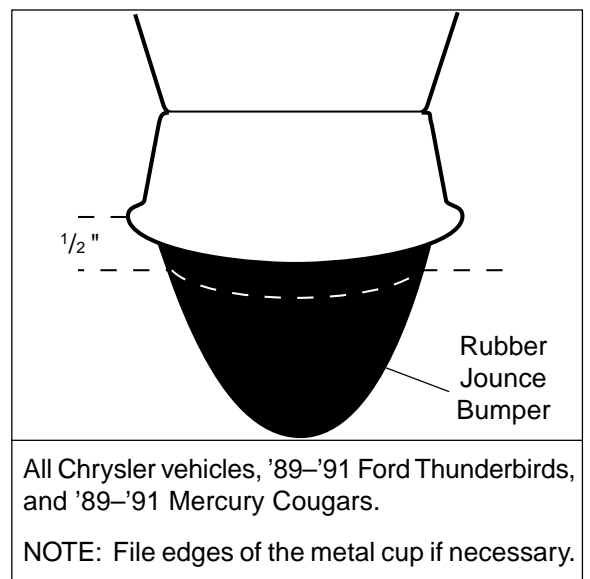
b. For GM Vehicles, Ford Taurus SW, Mercury Sable SW, Volkswagen, and Toyota Rav4:

- (1) Insert the flattened air cylinder into the coil spring between the middle coils with the valve stem to the inboard side (Figure 3).



All Chrysler, Dodge, and Plymouth vehicles, Ford Thunderbirds, Mercury Cougars, Eagle Summit SWs, and Mitsubishi Expos.

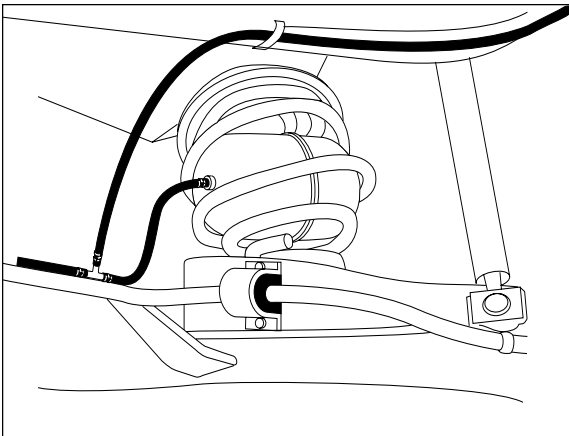
Figure 1



All Chrysler vehicles, '89-'91 Ford Thunderbirds, and '89-'91 Mercury Cougars.

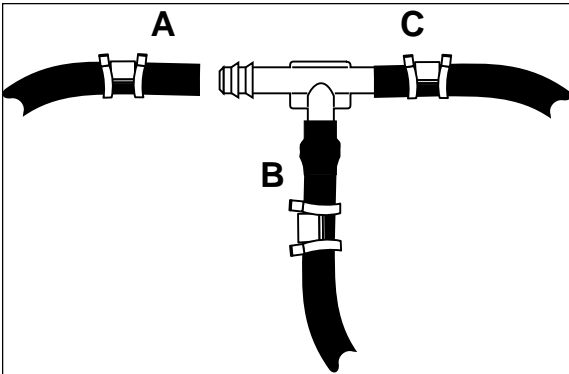
NOTE: File edges of the metal cup if necessary.

Figure 2



All General Motors vehicles, Ford Taurus station wagons, Mercury Sable station wagons, Volkswagen vans, Mazda MPV vans, and Toyota Rav4s.

Figure 3



Use this procedure for all air line connections:
 A. Slide air line clamp onto the air line.
 B. Push the air line over the barbed stem.
 C. Compress ears on air line clamp with pliers and slide it forward to fully cover barbed section.

Figure 4

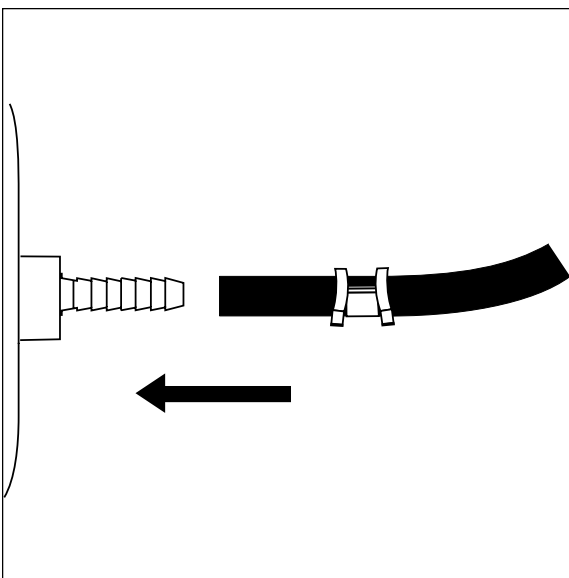


Figure 5

- (2) Push the air cylinder into the coil by hand or with a blunt instrument such as a "spoon-type" tire iron.
- (3) When the cylinder is completely within the coil, locate the stem towards the center of vehicle spaced equally between the coils. Remove cap and allow cylinder to assume its "as molded" shape.
- (4) Continue with the air line installation on pages 2-4.

c. For Eagle Summit SW and Mitsubishi Expo:

- (1) Increase the diameter of the hole in the lower spring seat to $\frac{3}{4}$ " diameter. Remove all burrs and sharp edges.
- (2) Insert air cylinder into coil spring with barbed stem towards the bottom. Push the cylinder up within the coil by hand or with a blunt instrument such as a spoon-type tire iron (Figure 1).
- (3) When the cylinder is completely within the coil, remove the cap and allow the cylinder to assume its "as molded" shape.
- (4) Continue with air line installation on pages 2-4.

4. Installing the Air Lines:

IMPORTANT: Tee air line installation recommended unless weight in vehicle varies from one side to the other and unequal pressures are needed to level the load. Dual air lines are used in this case. If tee line installation is necessary, then continue with step a. For dual air line installation, go to step b.

a. Tee Air Line Routing and Installation:

IMPORTANT: To prevent air line from melting, keep it at least eight inches from the exhaust system.

- (1) Locate desired tee location on the frame rail or cross member.
- (2) Determine and cut adequate length of air line to reach from tee to left and right side on air cylinders. **CAUTION:** Leave sufficient air line slack to prevent any strain on fitting during axle motions.
- (3) Slide air line clamp onto the air line.
- (4) Push air line over one side of tee until all barbs are covered. Repeat procedure for other leg of tee (Figure 4). With pliers, slide air line clamp forward until it fully covers barbed section. Repeat for other leg of tee.
- (5) Route along cross member and either lower control arm or upper spring seat to air cylinder.
- (6) Insert air line through spring seat.
- (7) Push the air line onto the stem, covering all the barbs (Figure 5). With pliers slide the air line clamp upward until it fully covers the barbed section.
- (8) Push the remaining air line over the last fitting on tee and route along frame to desired inflation valve location (Figure 6). Attach with plastic straps or wire.

- (9) Select a location for inflation valve in the gas cap well, the trunk, rear bumper, fender flange or behind the license plate, assuring that the valve will be protected and accessible with an air hose.
- (10) Drill a $\frac{5}{16}$ " hole for inflation valve and mount as in illustration (Figure 7). Rubber washer is for outside weather seal.
- (11) Slide air line clamp over the air line. Push air line onto fitting covering all barbs, with pliers slide the air line clamp forward until it fully covers the barbed section (Figure 8).
- (12) Raise axle or lower body until air cylinders lightly touch upper spring seat and lower spacers.
- (13) Check tailpipe clearance and insure that it is at least 2–3 inches from air cylinder. If necessary, loosen clamps and rotate or move to obtain additional clearance. If heat shield is provided, install it. Attach shock absorbers if removed earlier in the installation.
- (14) *Do not inflate air cylinders before reading Maintenance and Operation section. Continue with step 5.*

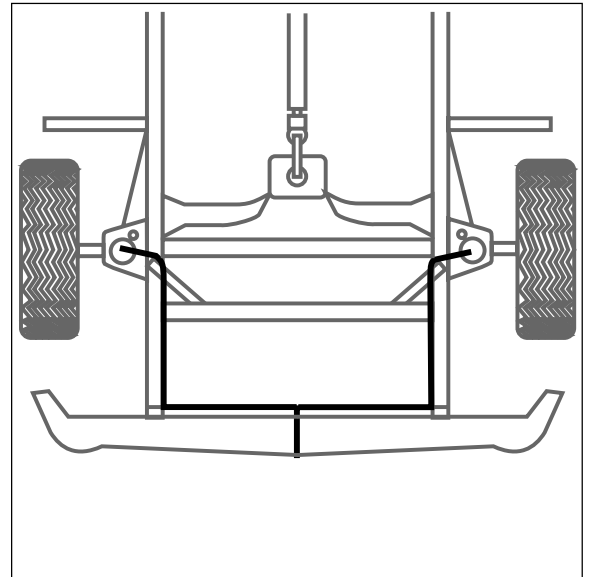


Figure 6

b. Dual Air Line Routing

IMPORTANT: To prevent air line from melting, keep it at least eight inches from the exhaust system.

- (1) Select a location for the inflation valves in the rocker panel flange, or rear bumper, assuring that each valve will be protected and accessible with an air hose (Figure 9).
- (2) Determine and cut adequate length of air line to reach from valve location to left side air cylinder. **CAUTION:** Leave sufficient air line slack to prevent any strain on fitting during axle motions.
- (3) Insert the air line through the spring seat and spacer.
- (4) Slide air line clamp onto the cut air line.
- (5) Push the air line onto the stem, covering all the barbed section (Figure 5). With pliers slide the air line clamp forward until it fully covers barbed section.
- (6) Repeat process for right side.
- (7) Drill $\frac{5}{16}$ " hole for inflation valves and mount as illustrated. Rubber washer is for outside weather seal (Figure 7).
- (8) Route air line along control arm and frame to inflation valve location and cut off excess.
- (9) Slide a clamp onto the air line and push the air line over the fitting, covering all the barbs. With pliers slide the air line clamp forward until it fully covers the barbed section (Figure 8).
- (10) Raise axle or lower body until air cylinders lightly touch upper spring seat and lower spacers.
- (11) Check tailpipe clearance and insure that it is at least 2-3 inches from air cylinders, If necessary, loosen clamps and rotate or move to obtain additional clearance. If heat shields are supplied, install them.

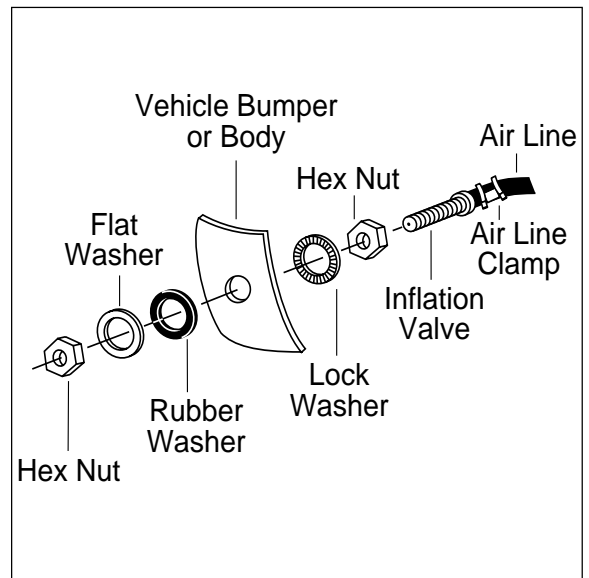


Figure 7

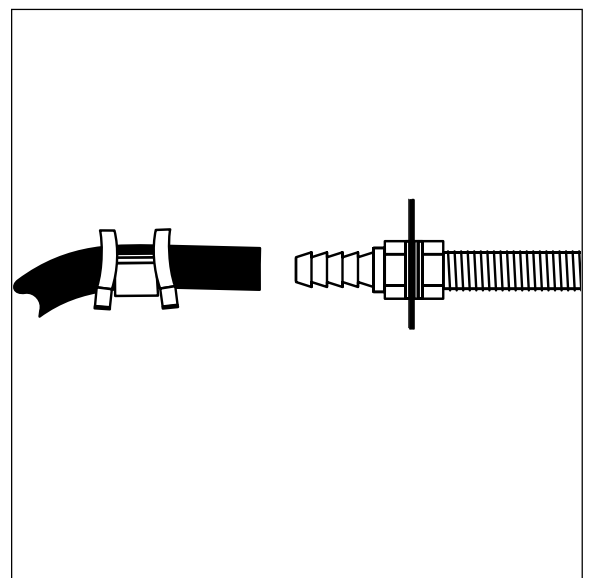
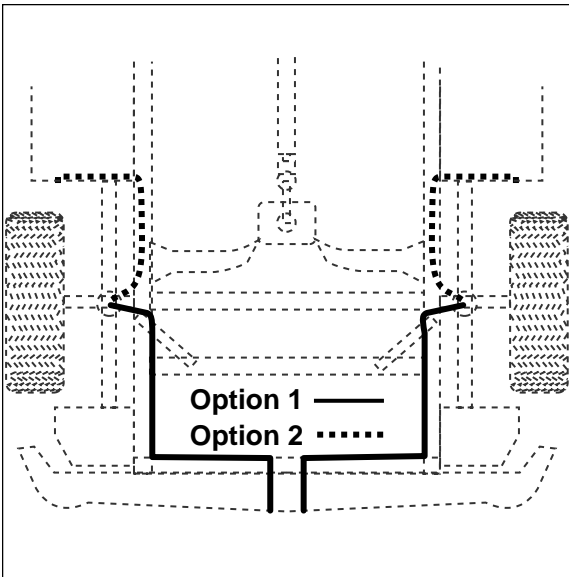


Figure 8



(12) Attach shock absorbers if removed earlier in the installation.

(13) *Do not inflate air cylinders before reading Maintenance and Operation section. Continue with step 5.*

5. Read Maintenance and Operation section, then inflate cylinders to 25 lbs air pressure. Check all fittings and inflation valve core for leaks with a liquid solution of $\frac{1}{5}$ dish soap to $\frac{4}{5}$ water.

6. Lower vehicle to the ground. Recheck air pressure after 24 hours. A 2–4 p.s.i. loss after initial installation is normal. If pressure has dropped more than 5 lbs. Retest for leaks with the soap and water solution.

Maintenance and Operations:

MINIMUM AIR PRESSURE	MAXIMUM AIR PRESSURE
5 psi	25 psi

By following these steps, vehicle owners should obtain the longest life and best results from their air springs.

Maintenance Tips:

1. Check the air pressure in the air springs weekly.
2. Always maintain at least the 5 p.s.i. air pressure to prevent chafing or coil pinch.
3. If a leak develops in the system, use a solution of $\frac{1}{5}$ dish soap to $\frac{4}{5}$ water to check all air line connections and the valve core before removing the cylinder.

Operating Tips:

1. Inflate your air springs to 25 p.s.i. before adding the payload. This will allow the air cylinder to properly mesh with the coil spring. After vehicle is loaded, adjust air pressure (down) to level the vehicle and for ride comfort.
2. When carrying a payload, it will be helpful to increase the tire inflation pressure in proportion to any overload condition. We recommend a 2 p.s.i. increase above normal (not to exceed tire manufacturers maximum) for each 100 lbs additional load on the axle.

CAUTION: *Do not exceed the vehicle manufacturers maximum gross vehicle weight rating.*

CAUTION: *Failure to maintain minimum pressure will void the warranty.*



Product Use Information

Frequently asked questions

Q. Will installing air springs increase the weight ratings of a vehicle?

No. Adding air springs will not change the weight ratings (GAWR, GCWR and/or GVWR) of a vehicle. Exceeding the GVWR is dangerous and voids the Air Lift warranty.

Q. Is it necessary to keep air in the air springs at all time and how much pressure will they need?

The minimum air pressure should be maintained at all times. The minimum air pressure keeps the air spring in shape, ensuring that it will move throughout its travel without rubbing or wearing on itself.

Q. Is it necessary to add a compressor system to the air springs?

No. Air pressure can be adjusted with any type of compressor as long as it can produce sufficient pressure to service the springs. Even a bicycle tire pump can be used, but it's a lot of work.

Q. How long should air springs last?

If the air springs are properly installed and maintained they can last indefinitely.

Q. Will raising the vehicle on a hoist for service work damage the air springs?

No. The vehicle can be lifted on a hoist for short-term service work such as tire rotation or oil changes. However, if the vehicle will be on the hoist for a prolonged period of time, support the axle with jack stands in order to take the tension off of the air springs.

Tuning the air pressure

Pressure determination comes down to three things — level vehicle, ride comfort, and stability.

1. Level vehicle

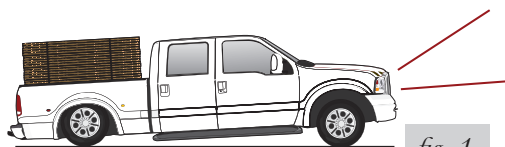
If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (fig. 1). Raise the air pressure to correct either of these problems and level the vehicle.

2. Ride comfort

If the vehicle has a rough and harsh ride it may be due to either too much pressure or not enough (fig. 2). Try different pressures to determine the best ride comfort.

3. Stability

Stability translates into safety and should be the priority, meaning the driver may need to sacrifice a perfectly level and comfortable ride. Stability issues include roll control, bounce, dive during braking and sponginess (fig. 3). Tuning out these problems usually requires an increase in pressure.



Bad headlight aim



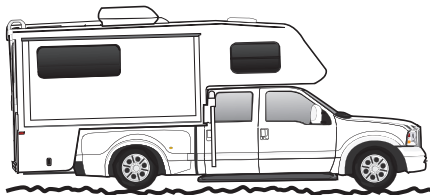
Sway and body roll



Rough ride

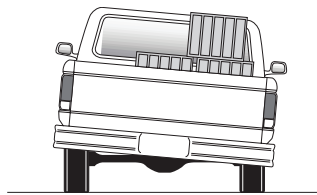
Guidelines for adding air:

1. Start with the vehicle level or slightly above.
2. When in doubt, always add air.
3. For motorhomes, start with 50-100 PSI in the rear because it can be safely assumed that it is heavily loaded.
4. If the front of the vehicle dives while braking, increase the pressure in the front air bags, if equipped.
5. If it is ever suspected that the air bags have bottomed out, increase the pressure (fig. 4).
6. Adjust the pressure up and down to find the best ride.
7. If the vehicle rocks and rolls, adjust the air pressure to reduce movement.
8. It may be necessary to maintain different pressures on each side of the vehicle. Loads such as water, fuel, and appliances will cause the vehicle to be heavier on one side (fig. 5). As much as a 50 PSI difference is not uncommon.

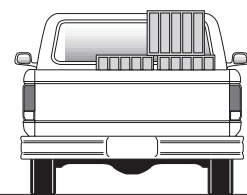


Bottoming out

fig. 4



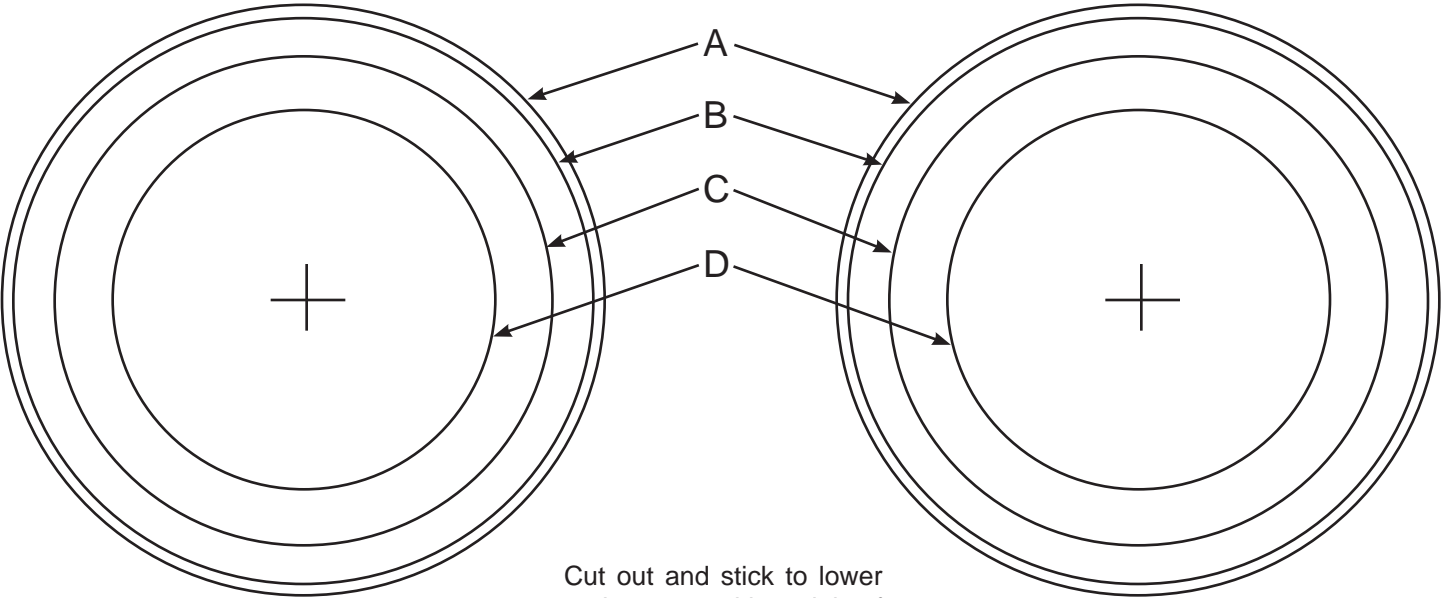
Unlevel



Level

fig. 5

TEMPLATE



Cut out and stick to lower spring seat with a dab of grease.