



## **Ksport ADJUSTABLE COILOVER SYSTEM**

Thank you for joining the group of enthusiasts around the world that use Ksport suspension systems on their vehicles to maximize vehicle performance. Please keep in mind that these systems are for OFF ROAD USE **ONLY**. This system is to enhance the handling, ride comfort and overall performance of the vehicle, but it will not necessarily have the same specifications as the OEM system. All installation should be performed by either an Authorized Ksport USA dealer or a professional who specializes in suspension tuning. Ksport USA can not be held liable for damages resulting from improper installation. With proper care, Ksport suspension systems will provide exceptional performance and durability. For any questions, please contact Ksport USA immediately.

Thank you for choosing Ksport suspension systems!

### **NEED HELP?**

Our representatives are here to help you with any questions concerning the operation of this product, available accessories or any other related issues.

**CALL 1-480-829-8100**

Or visit our website at

[www.ksportusa.com](http://www.ksportusa.com)

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## IMPORTANT SAFETY INSTRUCTIONS

When using and installing your suspension system, basic safety precautions should always be followed to reduce the risk of damage to yourself or the suspension system. Before installing your suspension system, please read and perform the following tasks:

- Read and understand all instructions
- Follow all warnings and instructions marked on product
- All Ksport systems must be installed by a professional
- Do not immerse the system in liquid
- Do not put shock assemblies near open flame, as explosion may occur due to highly compressed gas
- Do not install the system on any vehicle other than what it was intended for. Damage may result otherwise.
- Verify that all parts have been included before installation
- Do not attempt to disassemble the shock absorber system as it contains highly compressed gas
- Do not modify the system in any way
- Be aware that dirt or grit on the shock absorber will cause scratches
- This product is for OFF ROAD USE ONLY
- Ksport USA assumes no responsibility for accidents, damage, injuries or death resulting from improper installation, assembly, misuse and/or modification of the product

## WARNING

Shock absorbers are gas filled and under pressure. DO NOT open. DO NOT heat. DO NOT puncture. Refer to OEM service manual for all bolt/nut torque specifications. Installation should be carried out by a qualified facility. Failure to adhere to these warnings may cause injury or death.

## PREPARING FOR INSTALLATION

- Please read all instructions carefully before beginning installation
- Although we carefully inspect each product before leaving the factory, please verify all components are provided and tightened properly.

- Oil may be coated on the coilovers upon delivery. This oil coating is to prevent corrosion on the product after machining.
- Please apply the included Antirust packet to the pillowball, spring perch and top mount for spring. This will prevent rust and prevent metal parts from corroding. The Antirust is environmentally safe and no harm will occur to the human body if skin contact is made.

### **FACTORY SHOCK ABSORBER REMOVAL**

- Please follow the manufacturer's instructions for factory shock absorber removal
- If installing Ksport brand lowering springs, use a spring compressor if needed for spring removal from factory assembly.
- DO NOT RE-USE THE PISTON ROD TOP LOCK NUT

### **INSTALLATION OF COILOVER SYSTEM**

- Please be very careful when using torque wrenches and the application of any torque pressure – the shock absorber's piston shaft is hollow and may be damaged if torque is improperly applied
- If the spring seat is adjusted improperly, the shock absorber may be damaged. See pgs 4 and 5 for procedure for height adjustment.

### **BRAKE LINE BRACKET INSTALLATION**

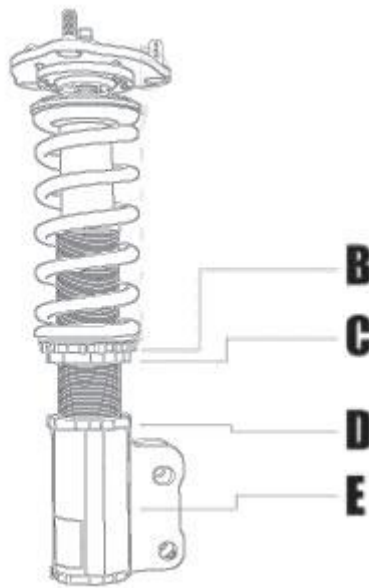
- Use the supplied brake line brackets to attach any brake lines or ABS brake harnesses to the coilover system
- On MacPherson strut suspension systems, the brake line bracket can be fixed to the upper or lower strut mounting bolt, between the nut and the lower strut mount
- On shock (ie. Double Wishbone) front and rear suspensions, the brake line bracket can be either bolted to a nearby suspension piece that moves *with* the direction of suspension travel, or fixed to the shock's lower mount with a secure, metal clamp
- Use the supplied rubber O-Rings and attach them to the brake line
- Attach the O-Ring to brake line bracket
- The brake line bracket may be bent or adjusted to accommodate angles or positions required to attach the brake line safely and securely
- Move the wheels throughout the entire range of motion to verify brake line placement. Binding, pinching, kinking, stretching, or other anomalies are to be avoided.
- Professional installation is REQUIRED

## COILOVER SYSTEM SETUP AND ALIGNMENT PROCESS

Professional alignment and setup is required upon completing installation of your Ksport suspension system. Performing each alignment process properly and in the correct order is required to ensure maximum performance, reliability and comfort from your vehicles suspension system. Please perform your alignment process in the following order. All work must be performed by a professional capable of precision suspension tuning and setup.

- Ride Height Adjustment
- 4-Wheel Corner Balance Setting
- Caster Adjustment
- Camber Adjustment
- Toe Setting Adjustment

## HEIGHT ADJUSTMENT OF COILOVER SYSTEM



**Diagram A**

**Please refer to diagram A for reference in this section**

- We recommend you remove the coilover system from the vehicle to adjust ride height, as it is necessary to use force when tightening the locking collar on the lower mount

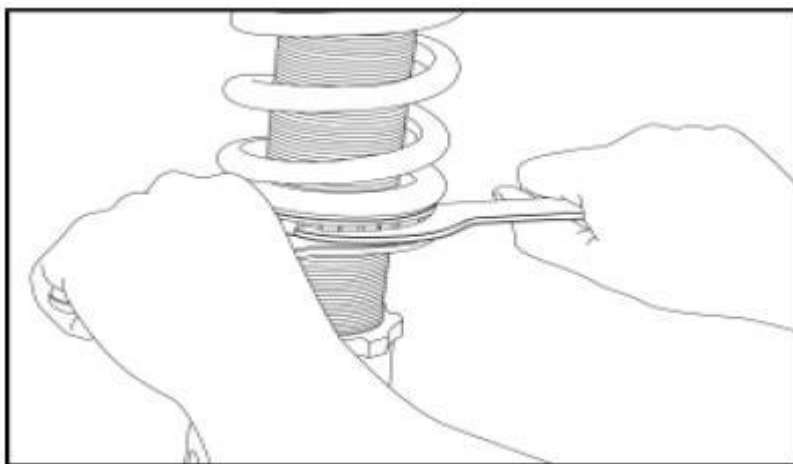
- Most vehicle applications will be adjusted for desired height by raising or lowering the lower mount (E) to the desired position. Adjusting ride height by the spring perch on these cars can result in damage to your coilovers and voided warranty.
- Some applications do not utilize a lower mount and must use the spring perch (B) for height adjustment

For applications with adjustable lower mount only

- **Step 1:** Raise the spring perch (B) enough to snug the spring, but not compress it. Use the locking collar (C) to tighten the spring perch in place (see Diagram B).
- **Step 2:** Thread the lower mount (E) UP to lower, and DOWN to raise the vehicle to the desired ride height
- **Step 3:** When the desired ride height is achieved, use the lower mount's locking collar (D) to secure the mount in place

*Instructions continued on Page 5.*

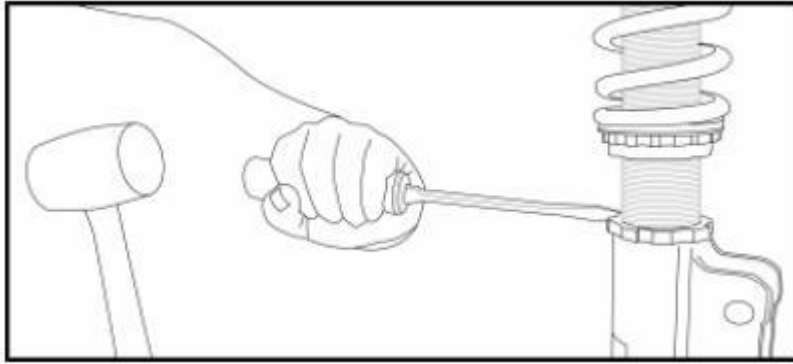
*Continued from Page 4*



**Diagram B**

Tightening the Spring Perch

- Two adjustment wrenches are provided with the suspension kit – use both for locking collars securely
- Use both wrenches in opposite directions to tighten the spring perch
- Using only one wrench does not have the same effect as tightening both against each other



**Diagram C**

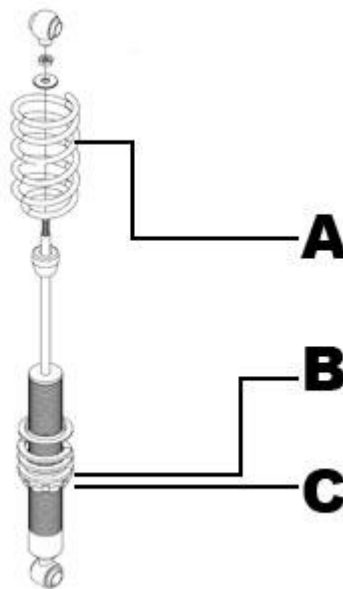
Tightening the **Lower Mount**

- We recommend using a mallet and brass punch to tighten the locking collars for the lower mount (D) and (F)

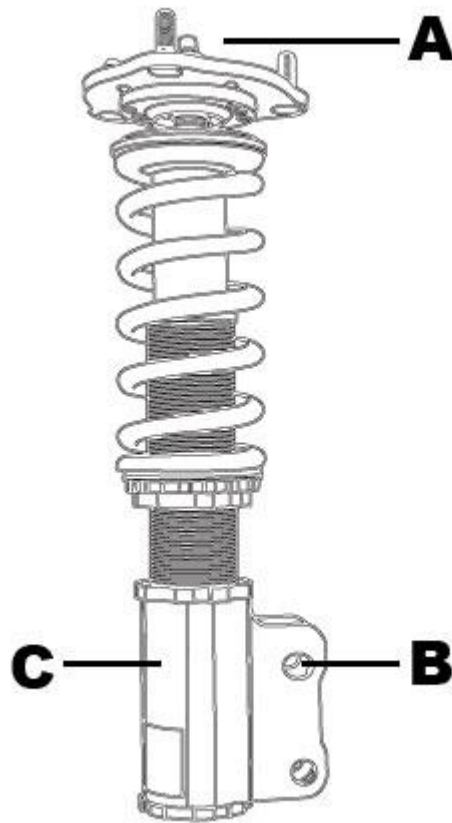
Height after lowering vehicle will be affected by spring rates installed, wheel/tire size, and position of lower mount.

For vehicles without an adjustable lower mount

For vehicles without an adjustable lower mount, use the vehicles spring perch to adjust ride height. By lowering the locking collar (Part C) and spring perch (Part B), the vehicles suspension is allowed to compress. This will result in a lower ride height. Most vehicles without an adjustable lower mount will make use of Helper Springs. Follow the instructions above for tightening the locking collar against the spring perch.



## CAMBER ADJUSTMENT OF COILOVER SYSTEM



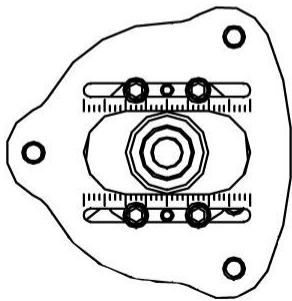
**Diagram D**

### Camber Adjustment for MacPherson Strut Type Suspensions

Vehicles equipped with MacPherson strut type suspensions have two (2) methods of camber adjustment. One or both methods may be used on a single vehicle, but it is recommended that the settings are symmetrical across the vehicle, or the SAME on each side of the vehicle. Example: If the top camber plate is use on the LEFT side, use the top camber plate on the RIGHT side as well.

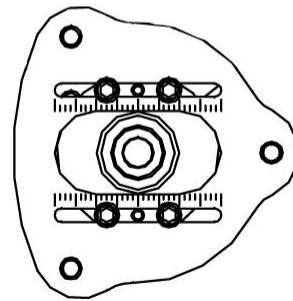
- The upper mount (Figure D, Item A) is used for small camber adjustments, such as dialing in different settings for varying track conditions.
- Set baseline camber by using the elongated hole (Item B) in the lower mount (Item C).
- The camber adjustment tracks should run parallel to the vehicles windshield, so that when the bolts in the pillowball camber plate are loosened, the shock shaft travels parallel to the windshield. (Diagram E)

# windshield



Pillowball is close to center of upper mount

Camber adjustment is parallel to windshield



If the pillowball is at an extreme angle, you may experience noise from the pillowball. This should be avoided, as it is a sign that you are stressing the pillowball. If your pillowball is at an excessive angle, please reset camber by using the elongated hole in the lower mount.

Ksport coilover systems for vehicles with double-wishbone type suspensions do not have adjustment for camber settings. Please refer to the Ksport USA catalog for options regarding camber adjustment on double-wishbone equipped vehicles. The Ksport USA catalog is located at [www.ksportusa.com](http://www.ksportusa.com).

**NOTE:** Please torque the nuts for the top mount studs to 177~221 lbs/inch.

## DAMPING ADJUSTMENT OF COILOVER SYSTEM

- Insert the damping adjustment knobs into the top of each shock absorber in the coilover system
- Vehicles with the inverted front strut suspension, insert the adjustment knob from the bottom
- Turn the damping adjustment knob fully clockwise – this is the hardest setting (maximum Rebound)
- Turn the damping adjustment knob 18 clicks counter clockwise. This is the mid-range setting, and is the best starting point for adjusting your dampers. This is called the “baseline” or “standard” setting.



- Drive at Standard, or Baseline setting and adjust in either direction as necessary to achieve desired performance
- DO NOT FORCE TURNING PAST THE LAST SETTING – DOING SO WILL DAMAGE THE SHOCK ABSORBER
- The damping adjustment knob may be removed if clearance is needed in hood or trunk area.
- If vehicle is driven without the adjustment knobs in place, cover the adjustment hole to prevent foreign materials from dropping in
- Some vehicle interior parts may need to be removed to gain access for adjustment

### **MAINTENANCE**

- Periodically clean the shock absorber shaft as dirt and road debris can cause scratching
- Keep clean of salt and salt water
- Remove grease and road grime before adjusting collars as they may become stuck

### **IMPORTANT INFORMATION**

- All Ksport products are for OFF ROAD USE ONLY
- Ksport USA will not take any responsibility for any errors or omissions in these instructions or product material
- Ksport USA recommends all work be performed by a certified professional or technician
- Ksport USA assumes no responsibility for accidents, damage, injuries or death resulting from improper installation, assembly, misuse and/or modification of the product
- Do not copy or reproduce any part of this document as it is protected under copyright law

## PRODUCT WARRANTY

**All products sold are subject to the following warranty:**

Autoline Industries warrants the shock absorbers and steering stabilizers to the original retail consumer against defects and workmanship when used on light truck and car applications under normal operating conditions for a period of 18 months. This warranty does not apply to shocks and steering stabilizers that have been improperly installed.

Our warranty does not cover shock absorbers that are to be used in racing applications. Exterior finish on all Ksport products is not covered by warranty; consumers are responsible for the maintenance of paint and or chrome or plated finish.

Shock boots are also excluded from any type of warrantee. ALL SHOCK BOOTS should be removed prior to returning to the Distributor from which the product was originally purchased. Rusted shock shafts will also be denied as a warrantee claim; consumers are responsible for the upkeep and maintenance of all chrome rods.

The consumer will be responsible for the removal and freight costs both to and from the Distributor from which the product was originally purchased. Proof of purchase is mandatory in order to receive warrantee replacement; original invoice from the Distributor from which the product was originally purchased must accompany the product in question for warrantee.

Autoline Industries or Autoline Industries distributor has the right to refuse a warranty claim if procedures are not met by the original consumer. All returns must have an R.M.A. approval from Autoline Industries prior to shipping direct to the Autoline Industries facility. Exclusions from this warranty are sales outside of the United States, damage to the finish, dents, rust, or any condition caused by abnormal use or neglect.

The loss of use of product, loss of time, inconvenience, commercial loss or damages are not covered. Autoline Industries reserves the right to change, modify, or discontinue the design of the products previously manufactured without assuming any obligation to the consumer. Any consumer which qualifies for a replacement of said discontinued product will only be allowed to receive new product which replaces the discontinued. Autoline Industries is not responsible for a pair of any product, if a single product has an issue.

Autoline Industries reserves the right to refuse any and all warranty claims from any Distributor which has not purchased the original Ksport product directly from Autoline Industries. Autoline Industries also reserves the right to refuse any Return Goods Authorization of said merchandise in which it is believed to be fraudulent or distressed merchandise not originally purchased from Autoline Industries.

**This warranty does not apply to any Ksport product which has been modified, customized, painted, dented, rusted or improperly installed.**