

# SHOCK MANUAL

**M<sup>2</sup>SHOCKS**  
Custom Performance Shocks

## Owners Manual & Installation/Setup Guide **CAN AM SPYDER/RYSER**

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This manual is for  
**M2Shocks 4<sup>th</sup> GENERATION CAN AM SHOCKS**

**\*\*\*\*\*SPECIAL NOTICE\*\*\*\*\***

# **M2.Shocks 4<sup>th</sup> Generation Shocks Installation Manual**

## **Key Changes in this manual**

Thank you for your purchase of M2Shocks 4<sup>th</sup> Generation Can Am Spyder shocks. This manual provides the updated information to successfully install and tune your Can Am Spyder shocks key changes/ additions to this manual are:

1. You no longer have to compress shocks to install the front shocks.
2. Shocks must be installed "writing up".
3. Shocks are within .25" of stock length, so no extensive compression of shock or adjustment is necessary.
4. Shocks have 60 Clicks of Adjustment and all are designed to work at -30 clicks from the stiffest setting. .



# M2.Shocks Can Am Spyder Owners Manual and Installation Guide

Thank you for your purchase of M2.Shocks Can Am shocks. You will have received the following:

- 2ea – 17.95" Front shock (F3) OR 18.95" (RT)
- 1ea – 13.95 (F3) or 14.25 (RT)" Rear shock
- 2ea – 41.5mm x 10mm spacer for rear shock bottom mount (RT and F3T/F3 Limited Only)

The shocks are designed to be run at this height as the shocks will sag about 3/4" at rest and it has an internal bumper that prevents "hard top outs" which provide superior comfort. Ride height is finely tuned with the springs by adjusting the collar on top of the spring. Specifically, we fine tune ride height by "tightening" or "loosening" the spring collar.

On RT and F3T/F3 Limited models, the rear shock installation will require two spacers (included with all shock kits) to replace the original OEM shock that has a built in sleeve on the bottom of the shock.

Installing the shocks and setup is fairly straight forward. You do need to possess basic mechanical skills, tools, and acumen. Please think this out before you start, if you feel this is beyond your skills, take to your local dealer for installation, we are more than happy to assist dealers with setup help. Here are some quick tips that should help:

1. Remove front and side panels (see illustration below) (There are many publicly provided Youtube videos if you get stuck with side panel removal...so don't be shy about searching that out)
2. BEFORE YOU PUT THE SPYDER ON A JACK OR LIFT, Use either an impact or manual wrench & socket to loosen the bottom and top nuts (facing the rear of the bike) for the **front shocks**. Do not remove bolts until you are completely on a jack, lift, and/or other support and prepared to change the front shocks.
3. Use a pancake jack placed at the rear of the main skid plate/underside frame rail to lift your Spyder for removal of old shocks and installation of new M2.Shocks products. BE SURE NOT TO PINCH OR DAMAGE hoses, lines, and body/chassis when you lift the bike up. We recommend 6 x 6 wooden blocks to be placed for safety in case the jack fails or the Spyder shifts during installation. Normally this will not happen, but it is a recommended safety strategy.



# REMOVING THE FRONT AND REAR SHOCKS

We recommend that you replace either the front OR rear shock(s) “one at a time” to ensure machine stability during work and as an added safety step. **BEFORE REMOVAL OF ANY OF THE SHOCK COMPONENTS DOUBLE AND TRIPLE CHECK THE STABILITY OF THE MACHINE!**

**Removing the rear shock** – For ease of work, remove the side panels to install the rear shock. On RT’s and F3 Limited Spyderys, you can leave the saddlebags on the vehicle.

**Tech Tips:** On the top shock bolt (underneath the passenger/driver seat on F3’s and the underside of the inner fender on RT’s), use RTV/Silicon in the sockets to prevent nuts from “falling down” during removal. Also, use a long phillips to push the bolt through the top with the socket/extension “on the other side” as you push it through, this will allow you pull the bolt out of the top without “dropping it”. Bottom bolts are easily removed with open end/box wrenches.

If you decide to remove the saddlebag (you only need remove the left rear), we highly recommend you use your phone/camera and take a picture of each fastener removed (about 20+ to remove) so you don’t “forget while re-assembling”.

**Removing the front shocks** – The front shocks are easily removed once the Spyder is lifted for F3’s. Simply remove the bolts from the front side (top and bottom) and the shocks will be removed.

For RT’s it is “a tight fit” on the stock shocks and you will be “doing some wigglin’ of shocks” to remove. SEE PAGE 3 FOR MORE INFORMATION ABOUT REMOVAL/INSTALLATION of shocks.

# INSTALLING THE FRONT AND REAR SHOCKS

## INSTALLING THE FRONT SHOCK

If you are installing “by yourself”, we recommend you install the top shock mount first. Prepare a bolt to secure the top mount of the shock. Once the top mount is positioned properly, push the bolt through the from the backside of the vehicle towards the front HALFWAY. NEXT, take the top mount bolt and push through from the FRONT TO THE BACK and this will expel the original bolt used to secure the top of the shock to the top mount. The reason to do it this way is that the wire harness sets right by the bolt mounting position and it is very difficult to install the bolt (from front to rear), set the shock in the right position for mounting, and push the bolt through. This technique will allow you to push the bolt originally halfway pushed through from the rear (through) the top mount so that the nut is tightened/installed from the rear. The original bolt you set the shock with will just be “pushed out”.

Install the bottom bolt (from front to rear). Once both sides are completed, lower the Spyder to the ground. You can tighten the nuts without the bolt spinning now.

## INSTALLING THE REAR SHOCK

Once the rear shock is ready for installation, mount the top FIRST you can use some RTV/Silicon to help you put the top mount bolt in a sock and with an extension “push it through the top mount/shock”. Tighten the nut by using an extension and RTV as described and carefully threading the nut onto the top bolt.

Mount the bottom of the shock to the chassis. FOR RT Models, two 51.5mm x 10mm spacer(s) will have to be placed on either side of the shock on the bottom. YOU MUST USE THE STEEL SPACERS SUPPLIED TO SUPPORT THE 135mm LONG BOLT that secures the shock. Tighten the securing nut.



Can Am RT, F3T, and F3 Limited Rear Shock Bottom with supplied spacers as installed



Can Am F3 and F3S Rear Shock standard bottom fitting



Rear Shock installed

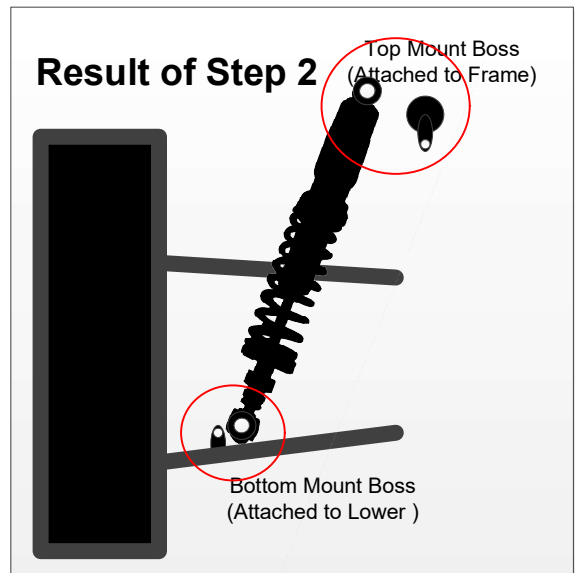
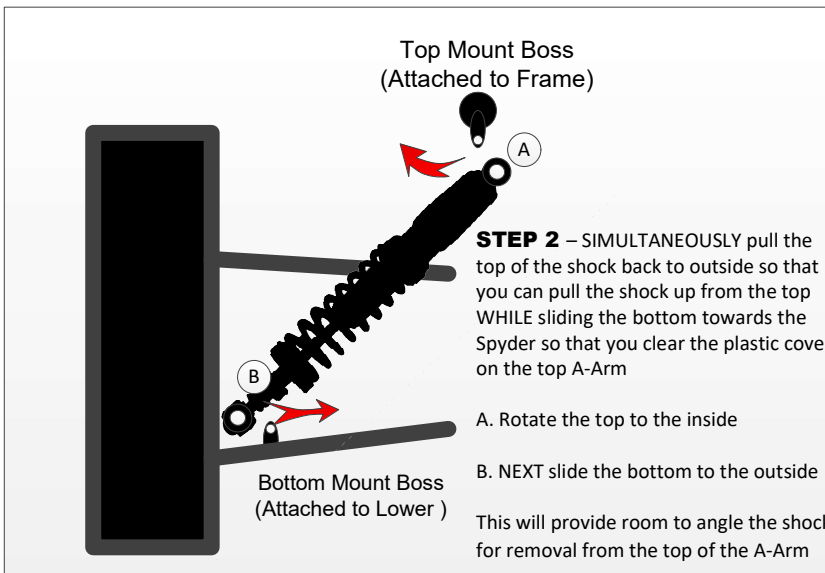
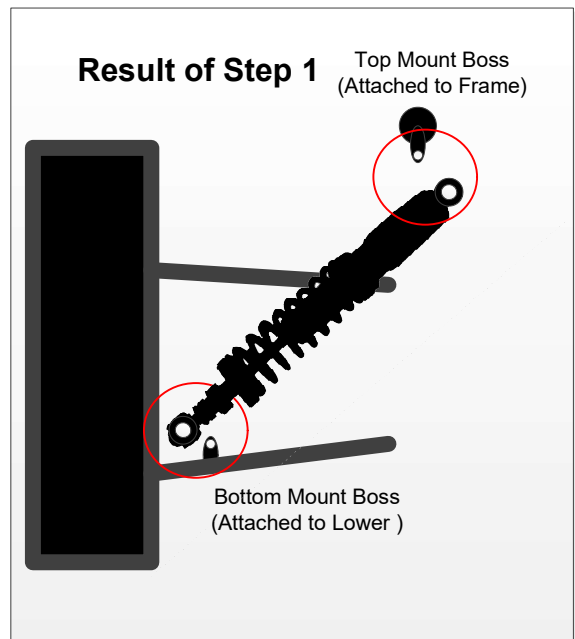
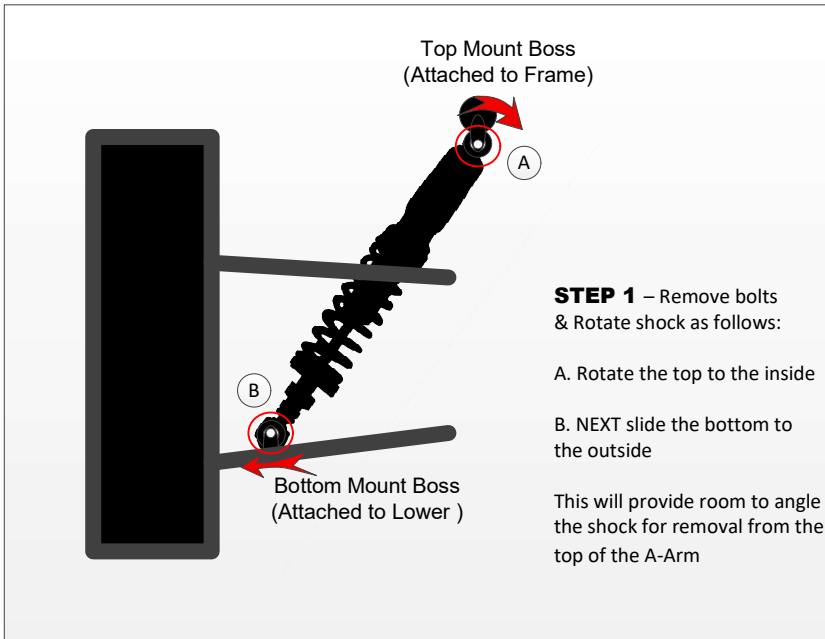


Rear Shock installed

# REMOVING (AND INSTALLING) THE FRONT SHOCKS

Many customers in the excitement to install their new shocks quickly remove the front shocks without understanding the manner in which they remove the shocks. In fact most customers find removing the stock shock very difficult. This diagram is provided so that you can understand the way you remove your stock shocks is the same process you will use to install your new M2Shocks.

PLEASE NOTE: It is no longer necessary to “compress the shocks” to install them on the Can Am Spyder Shocks. This diagram is provided to help you install your shock with ease.



# UNDERSANDING THE SHOCKS AND ADJUSTMENT

The shocks you have purchased are Performance Shocks that are made with the same tough components that we use in our racing applications with precise controls. There are two main controls that are used for the user:

1. **SPRING TENSION (PRE-LOAD):** This is controlled by the Collar that is atop the spring. It is easy to change spring tension via the 1/4" adjustment tool included with your shock(s). Both the front and rear shock(s) are adjusted the same which is to turn the collar **TO THE LEFT** to raise the bike or make **STIFFER** OR turn the collar **TO THE RIGHT** and make **SOFTER**.

2. **DAMPING ADJUSTMENT:** All shocks have an easy to use integrated damping adjuster. The adjuster "CLICKS" when turned. Located on the bottom of the shock, the damping unit will increase or decrease damping rates simply turning the knob. **TURNING TO THE LEFT** makes the damping **STIFFER** or **TURN THE RIGHT** to make the damper **SOFTER**.

## ADJUSTING THE SHOCKS AND WHAT TO DO IF YOU GET LOST

Your performance shocks are dynamometer tuned to work "out of the box" **30 CLICKS** from maximum damping. Specifically, if you turn the adjuster all way to the right, and then 30 clicks turning to the left...this will place it "back at factory settings".

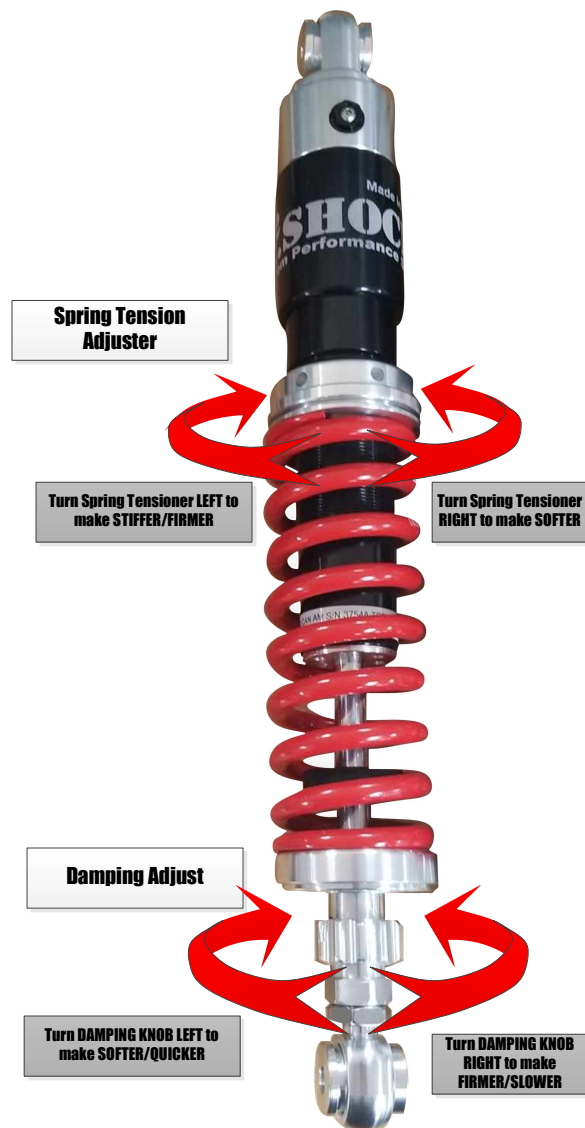
The following adjustment directions provide the results listed.

### DAMPING

Turn the **damping knob** to the **LEFT** to make **softer**  
Turn the **damping knob** to the **RIGHT** to make stiffer

### SPRING ADJUSTMENTS

Turn the **spring collar** to the **RIGHT** to **add tension**  
Turn the **spring collar** to the **LEFT** to **remove tension**



**Front Left Shock**

**Front Right Shock**

**Rear Shock**



The M2Shocks performance shocks for the Can-Am Spyder are designed to enhance the geometry that causes the “Can Am Spyder to Swim” while driving. Specifically, the oscillation of the handlebars and “unsteady ride” that customers routinely have concerns about.

We like to run the front of the Can Am spyder about ½” lower than stock on the RT and other models that are typically 4.5” above the ground (**measured at “A” as shown below**). On the “sport models” that are typically 3.5” off the ground, we leave that mostly alone, as the rear shock ride height can provide the geometry effect we are trying to achieve.

**Overall we want the front lower and/or the rear higher.**

To achieve the best geometry, the following steps are recommended:

1) BEFORE YOU BEGIN INSTALLATION, Measure the space between the ground and grill (low point of the front). This will usually be between 4.5” and 5.0”

2) Once your shocks are installed, then measure the distance. To achieve an ideal number (We usually want the front to sit at -½” to ¾” BELOW the stock shock position”), use the spring tension on the front shock to raise and lower the ride height. BE MINDFUL TO EVENLY ADJUST THE SPRING.

A. You can use a Sharpie to mark the adjusting collar so you “can count turns and keep adjustment even.

B. We also recommend using a tape measure to “double check the spring length” on each side to make sure the shocks are “even” after adjustment. You will likely want to lift the front end up get a completely accurate measurement.



# Setting up the damping FRONT

Because the Spyder puts tremendous weight on the front, you need not setup the spring/sag as it will always have at least 1" of preload on the spring. The springs are custom selected to your use/weight, so you will find damping is the only adjustment you need to make after ride height (front) is set.

For reference, a video is provided that captures "how to setup the front damping" (see 3:00 to 5:00 section in video <https://youtu.be/ApqmKKQTZ1k>)

Again, if you can watch the video, it will easily capture how to ensure damping is properly working. Regardless, you can set the front damping rates without the video.

The goal of the front damping rates is to have the front "bounce" with the suspension rising in a way that smoothly "tops out" without any movement. We highly recommend that you DO NOT adjust the shocks dramatically separate from the each other. Specifically if you setup one side, and the desired results are achieved at -45 clicks from maximum damping, and you setup the other side with performance achieve at -30 clicks OR ...this is not desirable and we recommend you contact M2.Shocks for either a replacement set of shocks OR verification of setup.

## Setup Steps:

**START:** Grab a handlebar (A) and place your foot on the footpeg/rest (B). Press down with a good amount of force (About 50lbs) and then allow Spyder to "come back on its own with no resistance from you".

**TUNING STEP 1:** You want the suspension to "come back up" without any residual movement once it "tops out". It shouldn't wiggle or "bounce" once it "tops out". If you see this add 5 clicks of damping (at a time) until the suspension smoothly stops. "Adding 5 clicks of damping" means moving the damping adjuster from -45clicks from maximum to -40 clicks out (as an example).

**TUNING STEP 2:** IF THE FRONT COMES UP "SLOW", then 5 clicks of damping out until you "see a wiggle" when it tops out, then add 2-3 clicks "back in" from there. :Taking 5 clicks of damping out means moving the damping adjuster from say -45 clicks from maximum damping to -50 clicks from maximum damping.

**TUNING STEP 3:** Once your baseline from the front is complete, it is fine to tune for stiffer or softer settings based on your preference.





# Setting up the Rear Shock

The rear shock is just as critical to your Spyder operating smoothly and comfortably as your front shocks. Key to this is both damping and spring tension. Spring tension for the rear shock does not really affect static (at rest) ride height like the front shocks, BUT it does play a key role in comfort. Please note: You really need a second person to "setup the rear shock".

## Setup Steps:

**START:** Find a fixed point on your Spyder/Luggage to measure straight down to the ground.

**TUNING STEP 1:** Measure the static sag. STATIC SAG is the amount of travel your Spyder Shock uses just sitting at rest with no one "on board". You want the static sag to be between 1/2" (FIRM) to 1.75"(SOFT/ PLUSH). You will need have a person holding a tape measure while another pulls up on a handrail or something solid to measure this.

If the Static sag is too much you will need to add spring tension (turn left on the spring tension collar) to make the spring "more firm"

If the Static sag is not enough, then you will need to remove spring tension (turn right on the spring tension collar) to add more "plushness"

**TUNING STEP 2:** Measure the rider sag. RIDER SAG is amount of travel your Spyder Shock uses from the rest position to the position where the rider (and passenger if applicable) rests. Generally, rider sag will be between 3/4" (FIRM) and 1.75" (SOFT).

If the Rider sag is too much you will need to add spring tension (turn left on the spring tension collar) to make the spring "more firm"

If the Rider sag is not enough, then you will need to remove spring tension (turn right on the spring tension collar) to add more "plushness"

If the Spring Tension on the rear shock needs to be adjusted more than four turns on the spring tension collar, please contact the RPS Manufacturing Offices. We may need to issue a new spring.

**TUNING STEP 3:** Setting Damping Rate. It is difficult for user to independently set damping. We recommend starting at the factory settings and then adjust as comfort dictates. REMEMBER turning the damping knob to the right makes the damping firmer and turning to the left makes it softer.



# Warranty and Contact Information



We thank you for your purchase of your M2.Shocks **Can Am Spyder Shocks** from RPS Manufacturing. We are proud of our products and their quality. Please feel free to contact with any questions. Our goal is to make riding your Can Am Spyder the best part of your day. We also want to make you aware of your Warranty, service, and contact options

## WARRANTY

Our shocks are produced and delivered to you free from defect. They are dyno tested to ensure proper operation as they were designed to work. The shocks are covered for 100% of the cost of repair for 12 months from any defect that may occur from normal operating paved road use. This does not include inbound shipping. Outbound shipping is covered under warranty.

**What is not covered under warranty?** Shock failure from extreme use (i.e. off road) OR damage from vehicle collision is not covered.

**Here is a list of warranty/non-warranty scenarios:**

1. **Shock leakage (oil)** – If under inspection a large divot/pit is found, this is not a warranty situation as a rock from the road has damaged the shaft and caused the seal to wear. In such cases, customers will be shown the damage. If no damage occurred, it is a warranty situation.
2. **The shocks lose nitrogen or performance** – Rarely will any actual shock performance loss occur that is not warranty. Exceptions are “customer removal of nitrogen fill port” and or obvious tampering.
3. **Adjusters jam or stop working** – Rarely will this occur and it will be a warranty situation. Again, obvious misuse or tampering will be the exception.

**What happens if I get the shocks and they just aren't working?** In almost every situation we will immediately ship out a replacement set with a call tag included in the box to tape and return the original shocks. We spend a tremendous amount of time to make sure “your shocks go out right” and if there is any issue we take that very seriously...and will act accordingly.

**Who ultimately decides if something is warranty or not?** Our reputation is on the line with every customer. We do not sell products that we cannot be assured will absolutely make our customers happy. Our service is part of that. Ultimately our management will have the final determination in warranty situations. Our basic rule we work around is “should it be reasonable to expect a defect from the situation that has occurred?” Our customers can be assured we will do everything in our power to meet their expectations.

**What if I don't like the shocks?** We are happy to refund any customer if they are not happy with our product. Request for refund must happen within 14 days of installation/initial use. In only two instances has this ever occurred and the refund was prompted by M2Shocks. The fact is you will be happy with your shocks UNLESS YOU don't want to be. Our position concerning this is that it costs us much more to have an unhappy customer rather than refunding the money and both parties go their separate ways. A restock fee of up to 10% may be charged if excessive wear/damage is demonstrated.

**Reimbursements for any and all services paid for by the customer** – M2Shocks does not reimburse any labor costs experienced by the customer through 3<sup>rd</sup> party installation companies/dealerships. No exceptions.

## SERVICE AND SUPPORT

We invite any and all questions from customers about their product. This includes installation, operation, and maintenance items. For customers that are having a dealership install our shocks, we will gladly work with your technician or installer to answer any questions. If you are not sure of anything that is presented in this guide, PLEASE CONTACT US ASAP. We are here to make your purchase one that you are grateful for.



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# M<sup>2</sup>SHOCKS

Custom Performance Shocks

## CAN-AM RT SHOCKS by: M2Shocks

Front Shock

Front Shock

Rear Shock

### Spring Preload Collar

Allows you add spring tension (Stiffer) OR release spring tension.

Turn to the left if you want more Preload (Stiffer)

Turn to the right if you want less preload (Softer)

### Damping adjuster

Allows "Stiffer or Softer Ride". 72 Clicks of total adjustment. Sent out at - 45 Clicks from the stiffest setting.

### Ride Height Adjustment

Allows up 1/2" extension

### Stainless Steel Sleeve Inserts

M2SHOCKS provides a replacement sleeve desing for Can Am RT (and F3T/F3 Limited) Rear Shocks

### Spring Preload Collar

Allows you add spring tension (Stiffer) OR release spring tension.

Turn to the left if you want more Preload (Stiffer)

Turn to the right if you want less preload (Softer)

### Damping adjuster

Allows "Stiffer or Softer Ride". 72 Clicks of total adjustment. Sent out at - 45 Clicks from the stiffest setting.

### Ride Height Adjuster

Allows shocks to be lengthened by 5/8" using the threaded adjuster

