RACECOMP ENGINEERING

BRZ/86 Tarmac 2 Coilovers
Installation Instructions

DISCLAIMER: PLEASE READ

We (Racecomp Engineering) are not responsible for any issues resulting from improper installation. Removal and installation of suspension components may be dangerous, as parts may be under compression and are likely to shift unexpectedly, causing serious injury or death. Installation should be performed by an ASE certified Subaru technician. Unless you are a technician by trade, you should not attempt installation of this part. Please use caution when driving your vehicle after installation, as handling characteristics may have changed dramatically.

Before installation, please read the following manual carefully

1. Check the package for shipping damage. If damaged, please take the following steps ASAP:

A. Take pictures before unpacking
B. Unpack the box and check for damaged parts
C. Take pictures of damaged parts
D. Contact Racecomp Engineering

2. Check the contents of the package ensuring everything is received. If any of these items are missing, please contact us.

A. x2 Racecomp Engineering front struts
B. x2 Racecomp Engineering rear shocks
C. x1 Spanner Wrench
D. x1 Allen key

Racecomp Engineering products are produced and assembled with the highest quality ensuring an easy install. However, sometimes complications arise during installation. In that case, please contact Racecomp Engineering.

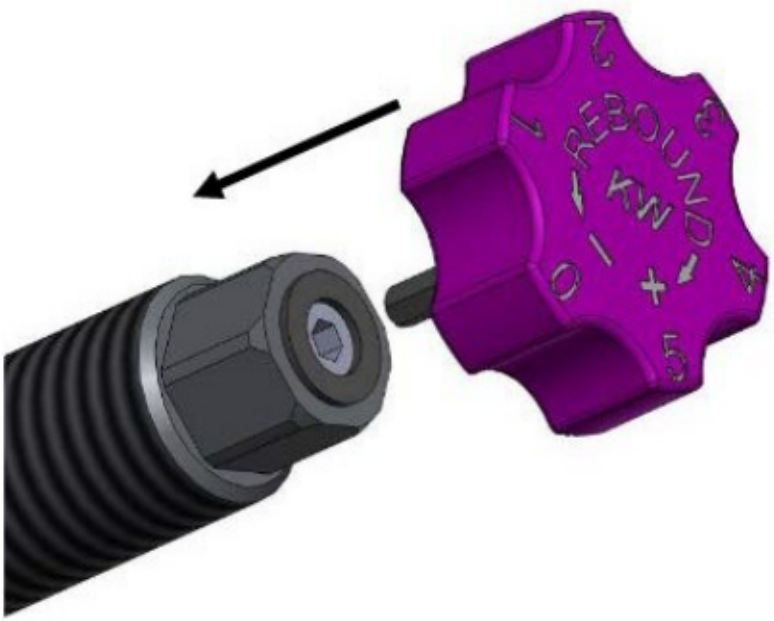
Rebound Adjustment

Never apply force to the adjusting mechanism of the shock absorber. As soon as you reach the end of the adjustment range, you will recognize a certain resistance.
STOP turning to avoid damage to the bottom valve.

Rebound controls how the damper extends back over bumps and during body roll. Adding rebound reduces excessive movement of the chassis and improves stability. Too much rebound can reduce overall grip in cornering, transitions, and traction coming out of slow speed corners.

The adjustment knob included with the kit must be inserted in the top of the piston rod. A 2mm allen wrench can also be used.

With clockwise rotation of the adjustment wheel the rebound damping will become harder. With anti-clockwise rotation the rebound damping will become softer. The click directions are labeled with "+" (harder) and "-"(softer) on the adjustment wheel



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Compression Adjustment

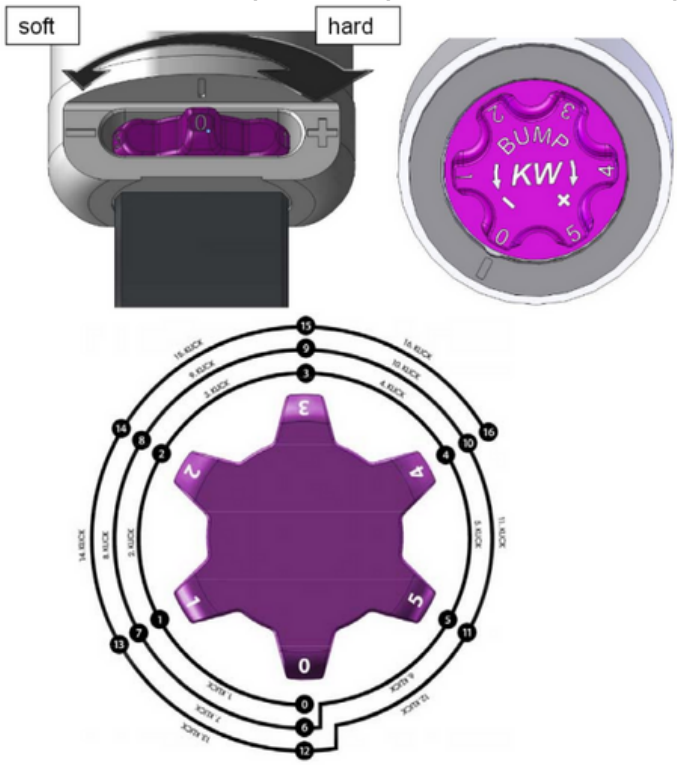
Never apply force to the adjusting mechanism of the shock absorber. As soon as you reach the end of the adjustment range, you will recognize a certain resistance.
STOP turning to avoid damage to the bottom valve.

DO NOT REMOVE ALLEN BOLT HOLDING THE COMPRESSION KNOB IN

Compression - Compression, also known as bump; controls how the damper compresses over bumps and during body roll. Adding compression damping can improve the stability, feel, and feedback of the car. Too much compression can cause the car to skip or skate over bumps.

Adjustment of compression damping takes place at the bottom of the damper, also with the support of the adjustment wheel. With clockwise rotation of the adjustment wheel the compression damping will become harder.

With anti-clockwise rotation the compression damping will become softer. The click directions are labeled with "+" (harder) and "-"(softer) on the adjustment wheel (labels are etched into the damper body in the rear except for GD chassis)



IMPORTANT NOTES:

1. We recommend the use of a vehicle hoist or lift when installing the suspension. If a lift is not available and jacking equipment is used, make sure that the vehicle is secured with jack stands to ensure safety.

2. The suspension components may only be installed by a trained and certified technician using proper tools.

3. Never use impact wrenches or guns to install or remove shock absorber piston hardware. **A strap wrench is highly recommended to secure shock shaft.**

4. It is imperative that you do not damage the piston rod surface, through the use of pliers, etc. as the smallest damage will result in seal damage and **will not be covered under warranty**.

5. Never disassemble or cut open shock absorbers and/or shock absorber inserts. They contain oil under pressure. Danger of explosion.

6. Ensure that the set screw on each spring collar is tightened to prevent movement of the spring perch after install. Do NOT over tighten set screws on spring perches. **Maximum torque is 0.74 - 1.47 ft-lbs**

7. After assembly and installation is complete, the vehicle should be rolled onto level ground. Once on level ground, measure the vehicle height and adjust to your specifications, within the lowering range specified earlier.

8. Examine the clearance between the tires and the suspension over the full range of motion of the wheel. **The minimum clearance between the suspension and the tire is 5mm.**

9. DO NOT use an aftermarket camber bolt on the UPPER slotted upper strut hole.IF additional camber is needed, an OEM crash bolt is recommend. An aftermarket camber bolt may be used for the LOWER bolt.

10. Have the car aligned to ensure camber and toe are corrected (caster if available)

Front Strut Assembly

Owners have the choice to install an OEM top mounts or aftermarket mounts. Below are instructions for use with OEM mounts.

OEM conical washers are needed
Part #20326AA000 x2

For aftermarket mounts, please follow manufacturer's instructions.

1. Lower the spring collars all the way down so the upper spring perch is below the lip of the strut shaft. Do the same for both sides. See photo below.

2. Install OEM conical washer on top of upper spring perch.

3. Install Group N mounts and lightly thread on supplied top nut.

3. Use strap wrench to secure shock shaft. For best results, wrap around shock shaft twice.

5. Twist and hold the strap tightly. **Torque top nut to 26ft-lbs**

Front Camber Adjustment

Racecomp Enigneering's Tarmac 2 coilovers allows for camber adjust via top clevis tab

Slotted clevis tab on top

The clevis tabs are slotted and this allows for more front camber by pushing in the top of the wheel when doing an alignment

DO NOT use an aftermarket camber bolt on the UPPER slotted upper strut hole.IF additional camber is needed, an OEM crash bolt is recommend. An aftermarket camber bolt may be used for the LOWER bolt.

Both top and bottom strut bolts must be loosened to adjust camber

NOTE: Always begin with the eccentric bolt on the lower strut when adjusting camber. Fine adjustments can be made via camber plates

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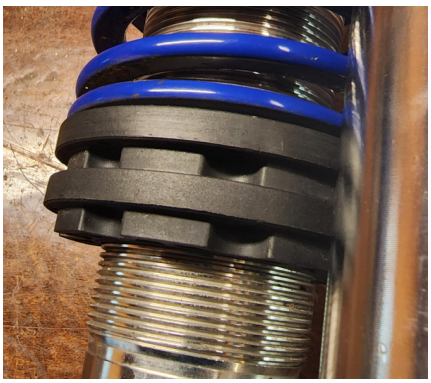
Rear Shock Assembly

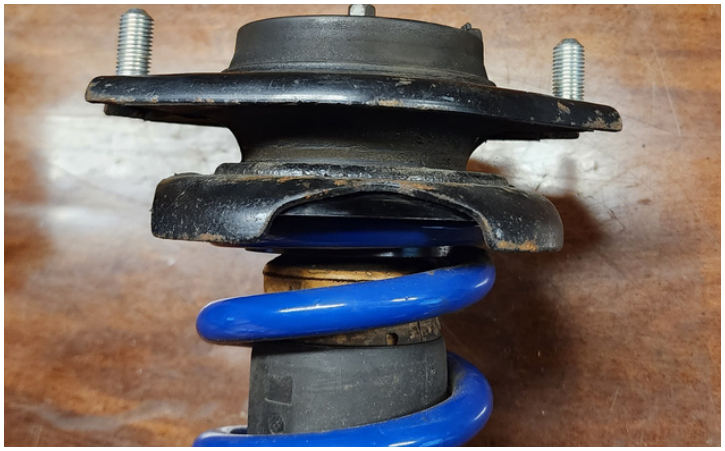
NOTE: FOR USE WITH OEM TOP MOUNT. Please follow manufacturer's instructions if using aftermarket rear top hats

1. Lower the spring collars fully to the bottom.



2. Install OEM top mount directly on top of the supplied upper spring perch.
   OEM RUBBER NOISE ISOLATOR IS NOT NEEDED

SUPPLIED UPPER SPRING PERCH



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3. Use strap wrench to secure shock shaft. For best results, wrap around shock shaft twice.

4. Install ONE Top nut at a time (VERY IMPORTANT) and torque to 15ft-lbs

A) Start by threading ONE of the supplied top nuts onto the rear shock shaft. Tighten and torque to **15ft-lbs**

B) Carefully thread the second supplied top nut. Tighten and torque to **15ft-lbs**
****MAKE SURE SOCKET DOES NOT CATCH BOTH TOP NUTS AT THE SAME TIME****

Ride Height

Before installation, roll the vehicle onto level ground. Then measure the ride height and note the measurements in the table below.

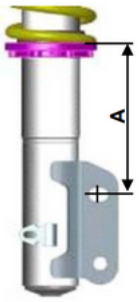
Measure from top of the fender (A) to center of the hub (B)

	Left	Right
Front		
Rear		

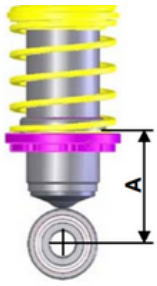
RECOMMENDED HEIGHT SETTINGS

Ride height should be set AFTER coilovers are fully assembled

FRONT STRUT



REAR SHOCK



Approximate distance measurement A	*min:*	*max:*	*min:*	*max:*
Front axle: Fastening screw - spring contact area *Rear axle: Seating height adjustment - spring contact area or fastening screw - spring contact area*	*70 mm / 2,8 inch*	*100 mm / 3,9 inch*	*130 mm 5,1 inch*	*155 mm / 6,1 inch*

GOING BELOW THE MINIMUM COULD VOID WARRANTY CLAIM

Approximate measurement* B in mm / inch: wheel hub center to fender edge	min:	min:
	320 mm / 12,6 inch	320 mm / 12,6 inch

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Front Strut Installation

1. Remove plastic clip that holds the ABS wire to the strut

2. Remove 12mm bolt that attaches the brake line

3.Remove 17mm nut that attaches swaybar endlink to strut using a 17mm open end wrench and a 6mm allen key.

4. Remove the two 19mm nuts/bolts that attaches the front strut to the hub

5. While having the strut supported or held in place, carefully remove three upper 12mm nuts that fasten strut top mounts to chassis.

6. Once all three 12mm top nuts are removed, ensure the abs and brake line are out of the way. Carefully remove OEM strut from the vehicle.

7. Install assembled Tarmac 2 coilovers by guiding the shock up to the chassis (If using camber plates, make sure the plates situated correctly). Secure the three bolts on the top mount to the car. Carefully guide the bottom of the strut to the hub and insert the two 19mm bolts.
Top clevis tab is slotted; bolt can only go in one direction

8. With the strut bolts loose, push in the hub THEN tighten both top and bottom strut. This will help maximize negative camber at the strut/hub. More negative camber can be adjusted via top mount.

9. Reattach front sway bar endlink to the strut.

10. Attach brake line to strut. Be careful not to pinch or tangle the ABS and brake lines.

- **Top mount to chassis nuts: 15 ft-lb**
- **Lower clevis bolts/nuts: 115ft-lb**
- **Brake line: 24.3 ft-lb**

11. Make sure all bolts are tightened and torqued to spec. Install front wheels.

Rear shock Installation

1. Remove trunk mat to expose tops of rear shocks.

2. Remove two 14mm upper nuts that fasten top mounts to chassis.

3. Remove 17mm bolt/nut that attaches the shock to swingarm (1) and 14mm bolt/nut that attaches swaybar endlink to swingarm (2)

4. Push down on swing arm and remove shock

NOTE:

If there is still too much tension to remove the shock, remove the 17mm nut/bolt that connects the swing arm to rear hub

Rear lower arm to hub: 59 ft-lb

5. Install assembled tarmac 2 coilovers by guiding bottom of the shock back into the control arm.
DO NOT insert lower bolt through the shock and control arm yet.

6. Push the shock upward and secure the rear top mount with the two OEM 14mm nuts.

7. Reinstall the bolts for the sway bar endlink and rear shock and torque to the following:

- **Top mount to car: 22.4 ft-lb**
- **Shock to LCA: 63 ft-lb**
- **Swaybar endlink to LCA: 28 ft-lb**
- **Wheels: 88.5 ft-lb**

8. Make sure all bolts and tightened and torqued to spec. Install and torque wheels. Roll the car on level ground and check ride height. Adjust if needed

4. Push down on swing arm and remove shock

NOTE:

If there is still too much tension to remove the shock, remove the 17mm nut/bolt that connects the swing arm to rear hub

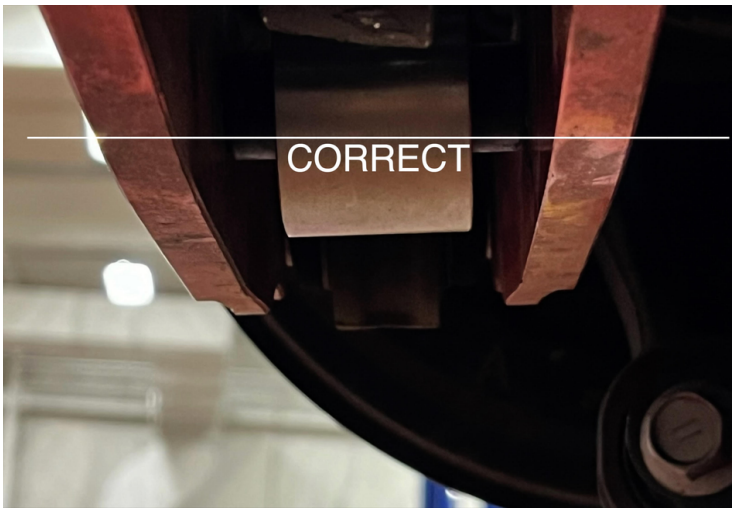
Rear lower arm to hub: 59 ft-lb

5. Install the new coilovers by guiding bottom of the shock back into the control arm. **DO NOT insert lower bolt through the shock and control arm yet.**

6. Push the shock upward and secure the rear top mount with the two OEM 14mm nuts.

7. Reinstall the bolts for the sway bar endlink and rear shock.

MAKE SURE LOWER EYE SOCKET IS CENTERED WITH THE LOWER CONTROL ARM. FAILURE TO DO SO WILL CAUSE DEFLECTION IN THE BUSHING



8. Install and torque wheels. Roll the car on level ground and check ride height. Adjust if needed

- **Top mount to car: 22.4 ft-lb**
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- **Wheels: 88.5 ft-lb**

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