

DMS North America

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**EVO 4-9 50MM
OWNERS MANUAL**

DISCLAIMER

THESE INSTRUCTIONS ARE DESIGNED TO SUIT
DMS SUSPENSION KITS. DMS OR ITS AFFILIATES ARE NOT
RESPONSIBLE FOR ANY FAILURES OR DAMAGE AS A
RESULT OF IMPROPER INSTALLATION OR SETUP.

**IT IS IMPORTANT
THAT THESE INSTRUCTIONS ARE
READ CAREFULLY BEFORE USE AND SETUP.**

DMS SHOCK ABSORBERS ARE DESIGNED FOR COMPETITION AND
HIGH END USE. AS SUCH THESE UNITS WILL REQUIRE
MAINTENANCE AND REBUILDS FROM TIME TO TIME BASED ON
USAGE AND CONDITIONS.

IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT
YOUR LOCAL DISTRIBUTOR OR MANUFACTURER.

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CARSET INSTALLATION INSTRUCTIONS

Mitsubishi EVO 4-9 50mm

DMS (all models) Shock Absorber Sets.

FRONT

Step 1.

Jack up front of car and place securely on jack stands. Jack up rear of car and place on jack stands.



Step 2.

Record camber settings after removing all wheels. Remove all lines and ABS sensors from struts. Remove front shock absorbers.

Step 3.

Transfer old top mount or install new top mounts on DMS suspension. Be careful not to rest suspension on adjuster knob at bottom of unit.

NOTE → If you use piro ball style top mounts you will need DMS fitting kit for Mitsubishi. Part number DMS-MIT-TM-KIT. Kit is supplied with all DMS Top Mounts. Installation directions are listed below.



Step 4.

Set lower spring platform so that spring is trapped (not loose). Then screw platform up an additional 5mm (street) or 10mm (gravel). This will provide a good starting point for ride height adjustments. Verify that top mounts function correctly and do not bind when rotated.



Step 5.

Fit strut to strut tower and torque m8 x 1.25 nuts to OEM specs.
Or
M10 x 1.25 nuts to OEM specs.



Step 6.

Fit knuckle into strut bracket. First fit bottom bolt. Pull up knuckle (as shown) to fit top bolt through adjustment washers. If necessary use plastic hammer to push bolt into place.





Step 7.

Fit top bolt through adjustment washers if equipped. DO NOT FORCE. *Consult washer alignment settings for desired camber and placement listed below.*



NOTE → The DMS setup will require an additional bottom bolt for fitment. DO NOT USE ORIGINAL TOP BOLT. This bolt may be purchased from a DMS Representative.

Step 8.

Attach brake lines and ABS lines (if equipped) using the DMS brackets provide in the kit. Torque lines to bracket using OEM factory specs. *Consult Brake Bracket Installation instructions below.*



NOTE → If you do not have brackets or are using struts in off-road use, a high quality “zip-tie” or “tie-wrap” is recommend (as shown in diagram)

Step 9.

Tension all bolts to OEM recommendations. Be sure to tension top shock absorber mounts (m8), top shock absorber (m12) and strut to knuckle bolts (m12) as well as all brake and ABS lines.



REAR

Step 10:

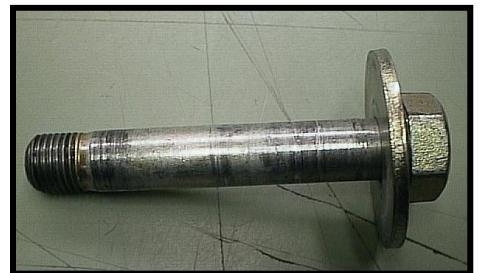
To remove rear struts, first take out bolt from link to hub assembly. Second, remove bolt from link to shock absorber. Push link down to remove shock absorber from car.

Unique DMS design allows for increased rear shock travel (stroke) compared to conventional shock absorbers.



Step 11.

Shorten bottom bolt by 10mm to suit the new strut type shock. Bolt must sit flush.



It is important that the threads do not pass outside the nut, failure do so can cause damage to the strut.



Step 12.

Set lower spring platform so that spring is trapped (not loose). Then screw platform up an additional 5mm (street) or 10mm (gravel). This will provide a good starting point for ride height adjustments. Verify that top mounts function correctly and do not bind when rotated or moved.

To adjust the damper, remove the aluminum cap (loosen the grub screw 3mm) from the bottom of the strut and then follow the *50mm setup instructions*.

A 3mm Grub screw is being loosened so that the protective cap can be removed, allowing the damping adjustment to be accessed.



Step 13:

Fit upper mount into place (top mount) and position the lower link using a car jack. First fit shock absorber bolt while holding hub assembly away. Slide hub assembly mount over the bush on the arm. Fit hub assembly bolt through the arm.





Step 14.

Tension all bolts to Subaru OEM recommendations. Be sure to tension top shock absorber mounts (m8), top shock absorber (m12) and strut to knuckle bolts (m14) as well as all brake and ABS lines. ***Please read additional fitment instructions on preceding pages before continuing with setup.***

Step 15:

Fit wheels and lower car. Adjust ride height and settings as required or based on specifications in DMS Setup Guide.

*****CAUTION:** Before driving on the road be sure all bolts are tightened to Mitsubishi's factory recommendations for EVO applications (verify for model year). ***

*****CAUTION:** Use torque wrench to check wheels are tightened to OEM recommendations for EVO models. ***

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ABS and BRAKE BRACKET INSTRUCTIONS

INSTALLATION INSTRUCTIONS

DMS (all models) Brake and ABS Brackets.

Step 1.

Look at each strut as shown in picture.



Step 2.

Align the hole of bracket with M6 stud on the strut. Please Note: Front bracket is the same part for both sides, but it is installed opposite for LH and RH struts, as shown below. Rear brackets come in a LH and RH side version (as seen on the following page).



Front LH Side



Front RH Side



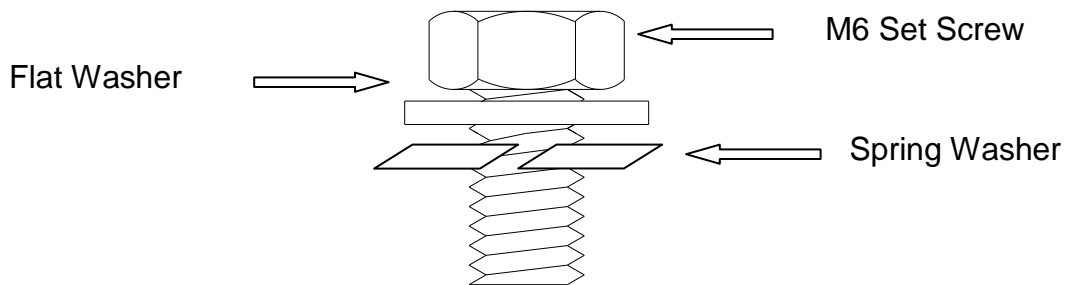
Rear LH Side



Rear RH Side

Step 3.

Take the M6 Set Screw and put the spring washer on first and then the flat washer, as shown in the diagram below. Pass through the appropriate brackets and screw into strut housing. If two brackets are being installed, do not use flat washer. Torque to 5 Nm (1.5 ft/lb)



Step 4.

Install the brake hose and ABS line (if equipped) to the appropriate bracket fitting and torque to OEM specifications.

Step 5.

Recheck every step to ensure that the brackets and the hoses are all secure.

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PIRO BALL KIT INSTRUCTIONS

Piro-Ball Adapter Kit (all models) (Rebound Height Tuning Kit)

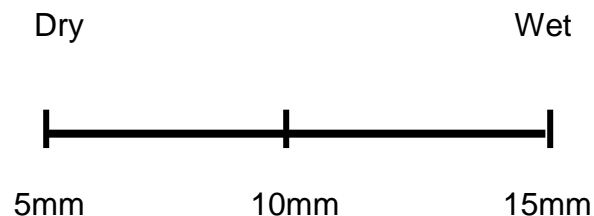
INSTALLATION INSTRUCTIONS

NOTE → If you use piro-ball style top mounts, these directions are for the proper fitment of the kit. Verify application ferrule thickness. These kits are supplied with all DMS Top Mounts.

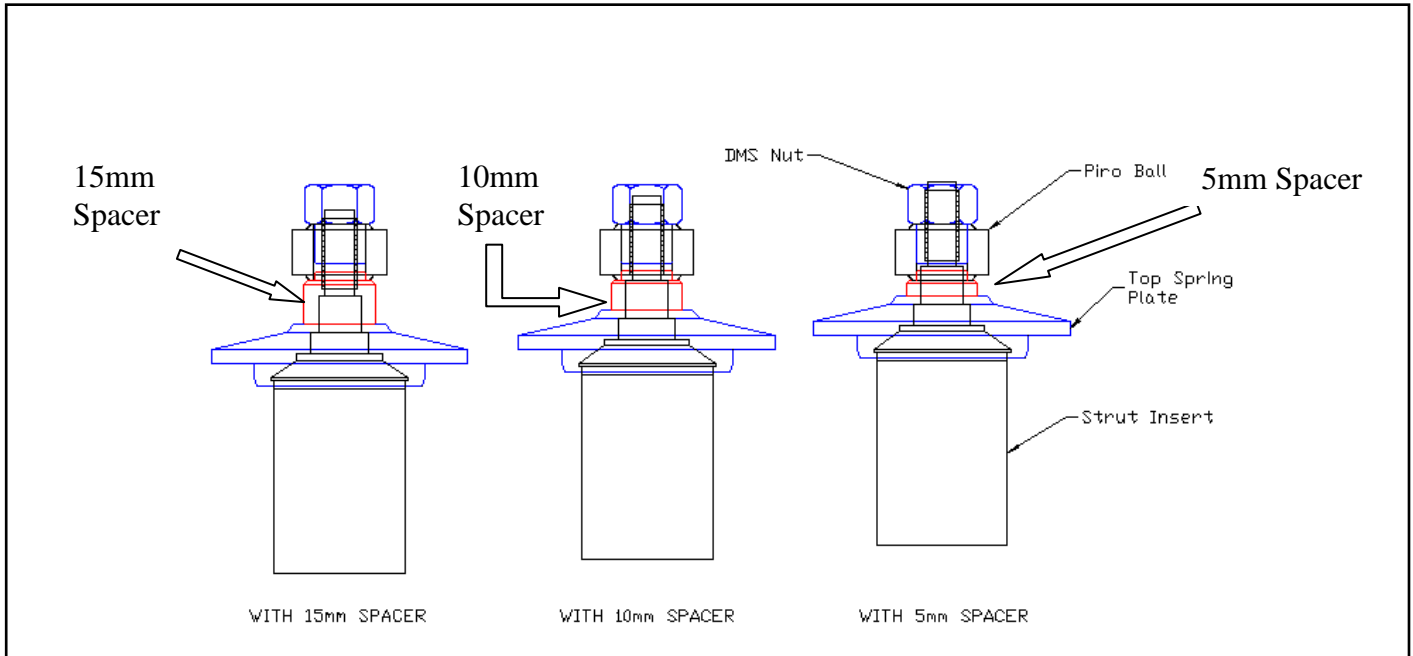
Introduction (for tuning kits only)

The DMS rear rebound spacer kit is designed to give autocross competitors various options in precision car setup. The kit contains various spacers that alter the maximum amount of full droop that the strut can travel. Consult your dealer for applications.

Below is a scale showing the usage of the different spacers:



On the following page is a diagram showing the increased droop using the different spacers and their correct location.



Installation.

Select the spacer that you wish to use (5mm spacer is standard for piro ball applications and DMS Top Mounts). Put the spring top hat on the top pin of the insert so it is seated properly. Place the appropriate spacer over the thread of the pin, and push down until it sits on top of the spring top hat. Some top mount kits will have a washer between spacer and spring top hat. Fit the Piro ball top mount and then fit the DMS top nut that is supplied. This will screw down into the piro ball. Torque to OEM Manufacturer specifications.

Step 14:

Fit wheels and lower car. Adjust ride height and settings as required or based on specifications in DMS Setup Guide.

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EVO 4-8 50mm SETUP INSTRUCTIONS

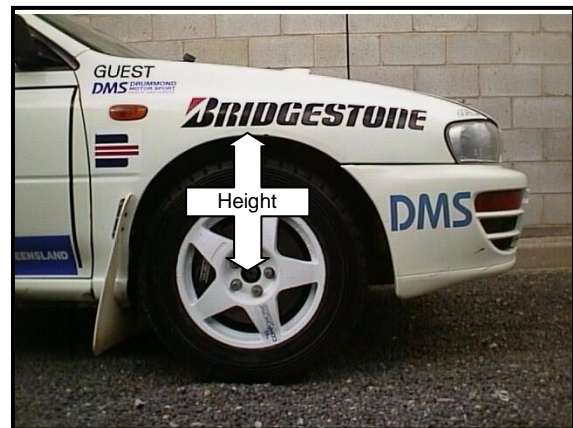
MITSUBISHI EVO 4-8

DMS 50mm (all types) Shock Absorber Sets.

ADJUSTING THE RIDE HEIGHT

Step 1.

To measure ride height of car
-park car on level surface
-be sure car is properly settled
(SHORT test ride will do so)
-measure ride height from
center of axle nut (wheel
center) to fenders edge



Recommended Ride Heights

EVO 4 - 9	GRAVEL	AUTOCROSS	STREET	TARMAC (H)	TARMAC (S)
FRONT	415mm	365mm	370mm	370mm	365mm
REAR	395mm	345mm	355mm	345mm	340mm

EVO 1- 3	GRAVEL	AUTOCROSS	STREET	TARMAC (H)	TARMAC (S)
FRONT	405mm	350mm	365mm	365mm	350mm
REAR	385mm	340mm	350mm	345mm	345mm

EVO GTP	CIRCUIT and TRACK
FRONT	340mm
REAR	315mm



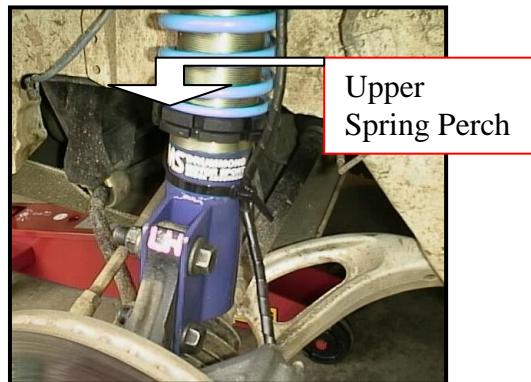
Step 2.

Jack up front of car and place securely on jack stands. Jack up rear of car and place on jack stands. Remove wheels.



Step 3

Set upper spring platform so that desired ride height is achieved. Tighten bottom perch by hand or with **ONE** spanner wrench once the adjustment is complete. We recommend that the exposed threads be covered with race or a cloth type tape.



*****CAUTION:** Do NOT over tighten or force spring perches together with two wrenches, this can cause the seats to permanently seize or bind together.***

Step 4.

Fit wheels and lower car. Torque wheel bolts to OEM specifications.



ADJUSTING DMS SHOCK ABSORBERS.

*****CAUTION: Do NOT force the adjusters in any direction.*****

*****CAUTION: Only turn rebound adjuster clockwise. *****

Step 5.

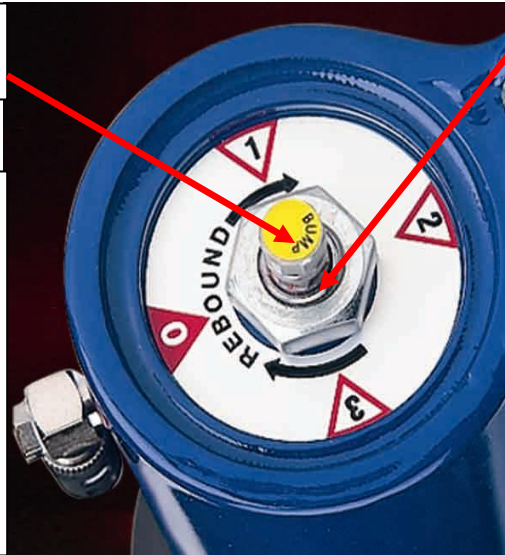
Directions for adjusting DMS suspension are also on the special DMS tool. There are 20 clicks of total bump adjustment (stainless steel knob) and 4 positions of rebound adjustment (black nut underneath bump adjuster).



Bump Adjuster
(stainless with yellow sticker)

To adjust bump, place bump adjuster (8mm) over stainless knob and rotate clockwise until it stops. This is full hard. Turn the adjuster in the opposite direction to achieve desired setting. 1 click = 45°

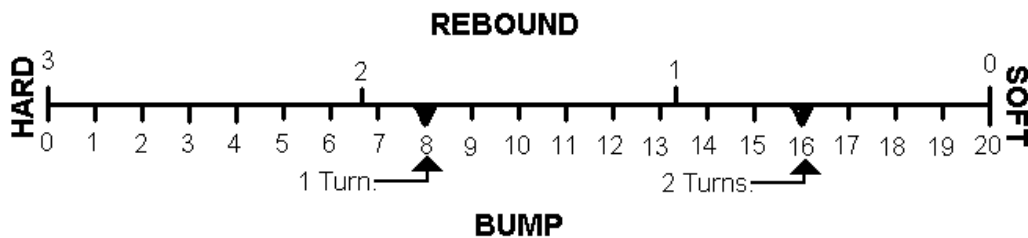
20 clicks = full soft
0 clicks = full hard



Rebound Adjuster
(black with arrow painted red)

To adjust rebound, place rebound adjuster (7mm) on black nut and turn clockwise ONLY. 1 adjustment = 90°.

0 = full soft (fastest)
3 = full hard (slowest)





RECOMMENDED DMS SHOCK ABSORBER SETTINGS

*** NOTE *** Tarmac (H) = rough surface Tarmac (S) = smooth surface

<i>EVO (all models)</i>	GRAVEL	AUTOCROSS	STREET	TARMAC (H)	TARMAC (S)
FRONT BUMP	12 clicks	12 clicks	18 clicks	12 clicks	15 clicks
REAR BUMP	12 clicks	15 clicks	18 clicks	12 clicks	18 clicks
FRONT REBOUND	1	1	1	1	2
REAR REBOUND	1	1	0	1	1

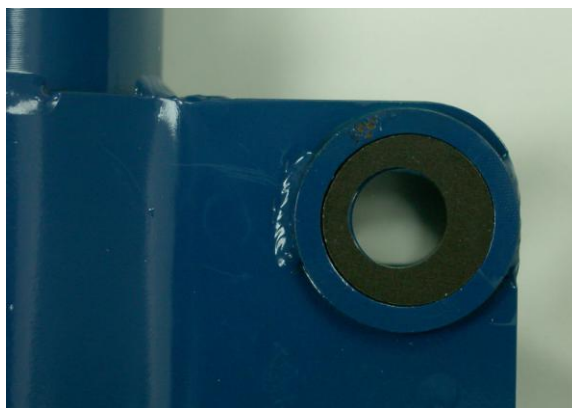
RECOMMENDED DMS WHEEL ALIGNMENTS

<i>EVO (all models)</i>	GRAVEL	AUTOCROSS	STREET	TARMAC (H)	TARMAC (S)
FRONT TOE	2mm out	2.5mm out	2mm out	2.5mm out	3mm out
REAR TOE	1mm in	.5mm in	0	1mm in	1mm in
FRONT CAMBER	-2.5°	-3.0°	-2.5°	-3.0°	-3.5°
REAR CAMBER	-1°	-1.5°	-1°	-1.5°	-2°

EVO GTP CAMBER	CIRCUIT and TRACK
FRONT	-5°
REAR	-4°

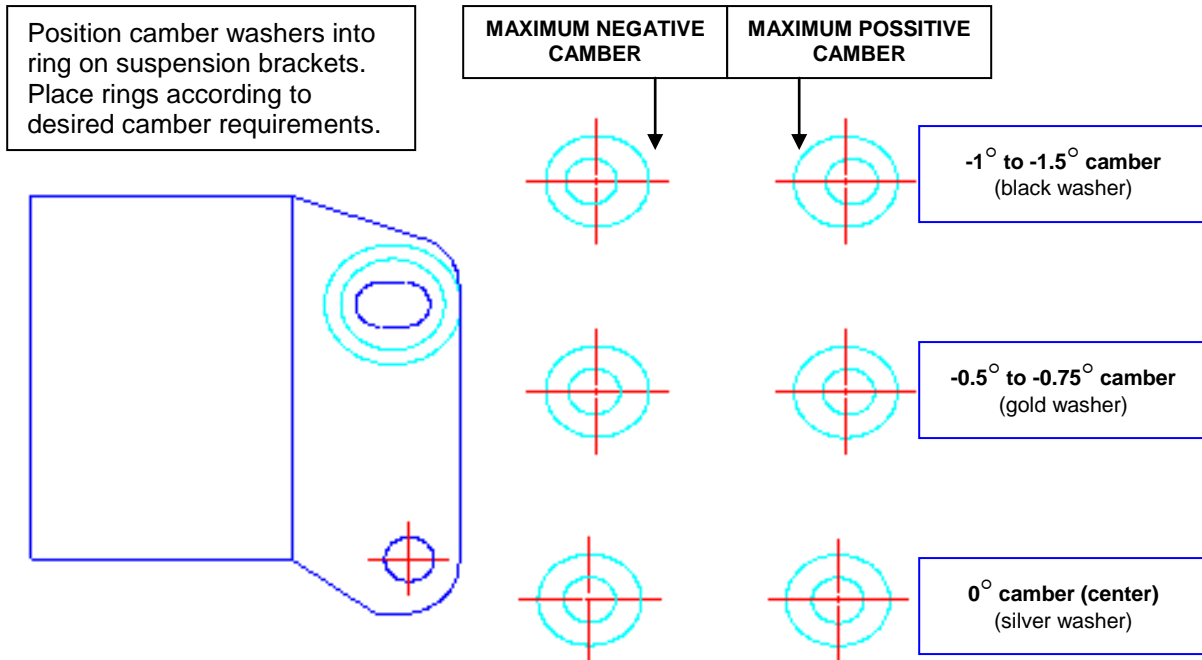
Step 6.

DMS uses offset washers for the rear camber adjustment of all Subaru applications. The standard m12 bolt is used to secure the washers in place. Shown in the diagram to the right is the black washer positioned to allow for maximum negative camber. A list of all washers and provided offset is below.





DMS offset washer descriptions



Step 9.

Tension all bolts to Subaru OEM recommendations. Be sure to tension top shock absorber mounts (m8), top shock absorber (m12) and strut to knuckle bolts (m14) as well as all brake and ABS lines.

Step 10.

Fit wheels and lower car. Torque wheel bolts to OEM specifications.



*****CAUTION:** Before driving on the road be sure all bolts are tightened to OEM factory recommendations for EVO applications. ***

*****CAUTION:** Use torque wrench to check wheels are tightened to Mitsubishi recommendations your specific wheel manufacturer. ***

*****NOTE:** All settings recommended in this manual are intended for basic starting points. We do not assume that they will be correct for every application. Settings are based on the following car sets and spring rates:

- 1) Gravel = NG type shock absorber with 350lb front and 350lb rear springs
- 2) Street = NT type shock absorber with 350lb front springs and 350lb rear springs
- 3) Tarmac (h) = NT type shock absorber with 500lb front springs and 450lb rear springs
- 4) Tarmac (s) = NT type shock absorber with 700lb front springs and 650lb rear springs

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