

HIPERMAX III

ADVANCED EFFECT ON SUSPENSION SYSTEM

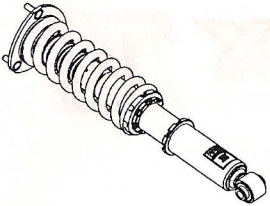
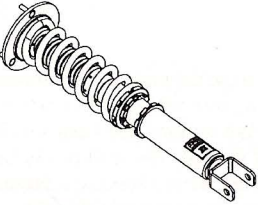




Installation Guide

This manual assumes that you have and know how to use the tools and equipment necessary to safely perform service operations on your vehicle. This manual assumes that you are familiar with typical automotive systems and basic service and repair procedures. Do not attempt to carry out the operations shown in this manual unless these assumptions are correct. Always have access to a factory repair manual. To avoid injury, follow the safety precautions contained in the factory repair manual

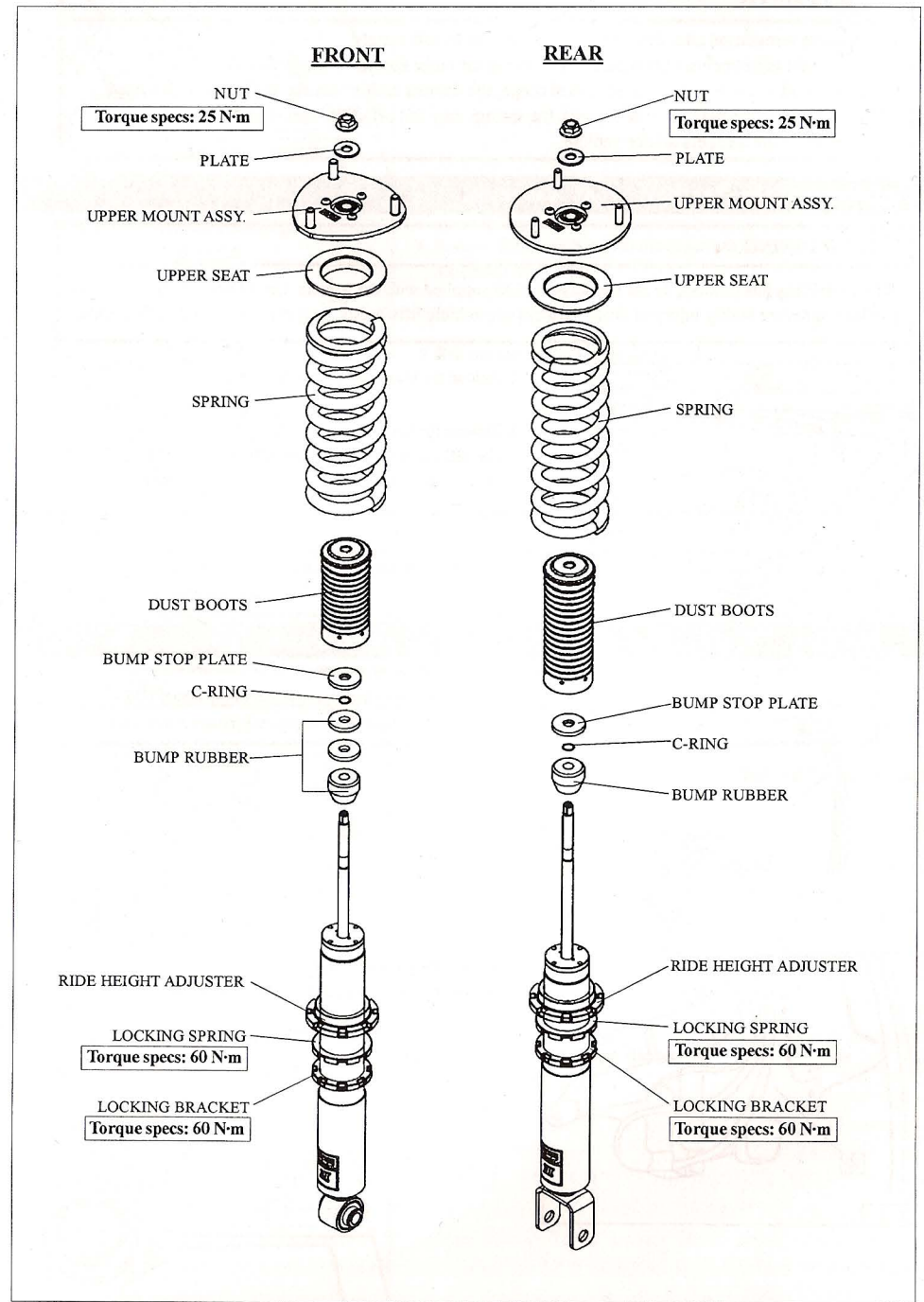
Vehicles Application Chart

Product	HIPERMAX III
Product Category	AUTOMOBILE PARTS
Part No.	80140-BT002 FULL KIT
Part No. of Manual	E04415-T23080-00
Vehicle	TOYOTA Supra
Model	JZA80
Engine	2JZ-G(T)E
Remarks	

Parts List

	Front Damper Assy	2
	Rear Damper Assy	2
	Adjustment Cable w/Dial	1
	Spanner Wrench	2
	Tie Wrap	8
	Installation Guide	1

Damper Components



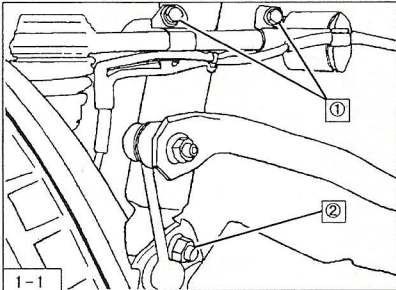
⚠ CAUTION

- Perform installation after the vehicle has cooled down sufficiently.
- For height adjustments, only adjust height within the range specified in this manual.
- If adjusted above or below the specified range, the damper and/or vehicle may become damaged.
- If there is too much play in the springs, the springs may fall off of the spring seats and cause damage to the dampers and/or vehicle.

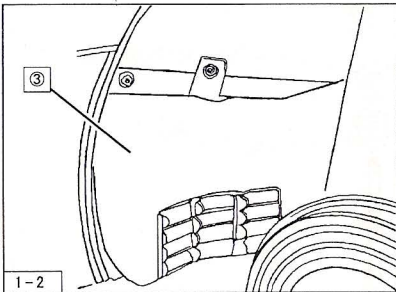
1. Removing the factory front dampers

⚠ WARNING

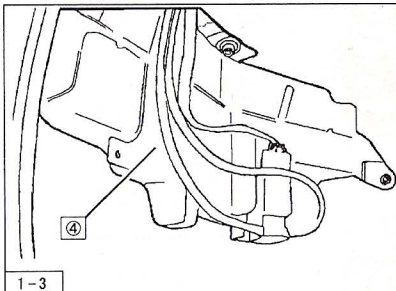
When installing this product, do not use scissor-jacks supplied with the vehicle. Use of unstable scissor-jacks can lead to severe bodily injury or death. Always use vehicle lifts/hoists, or garage jacks with jack-stands.



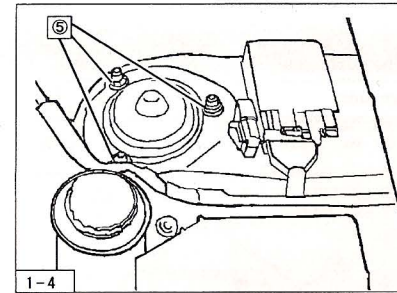
1. Jack up the vehicle and remove wheels.
2. Remove the following:
 - The ABS speed sensor harness bolt ①
 - The bolt and nut for the lower damper ②.(Diagram 1-1)



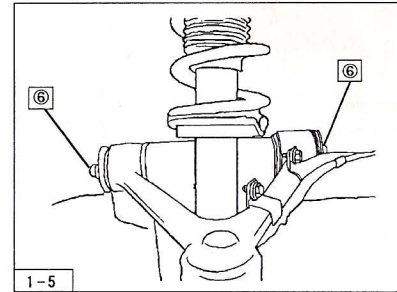
3. Only in the passenger side, remove the lower front inner fender ③.(Diagram 1-2)



4. Only in the passenger side, remove the washer liquid tank ④.(Diagram 1-3)



5. Remove the nut for the upper damper ⑤.(Diagram 1-4)



6. Remove the bolt and nut for the upper arm ⑥.(Diagram 1-5)

7. Remove the dampers from the vehicle.

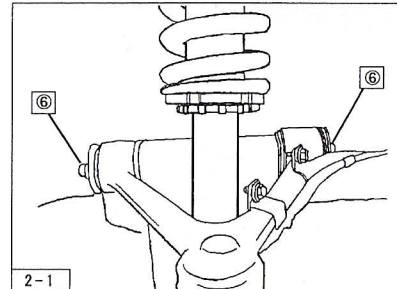
⚠ NOTICE

When removing the factory damper assembly, make sure not to pull on the brake line and ABS sensor. When these are pulled, it may damage the brakes.

2. Installing the front dampers

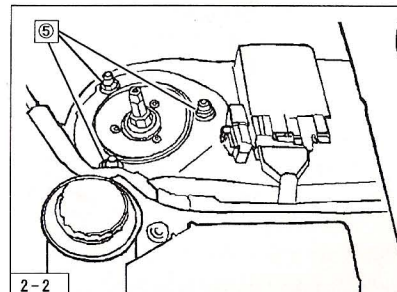
⚠ NOTICE

Refer to the service manual for torque specs when tightening bolts and nuts.



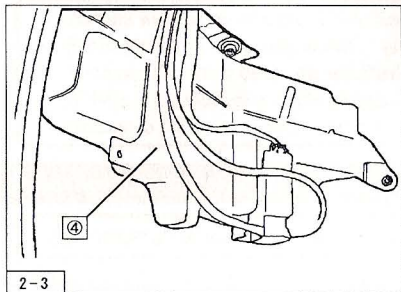
· Install the damper in reverse order of removing the factory damper.

1. Install the bolt and nut for the upper arm ⑥.
(Torque specs: 164N·m)
(Diagram2-1)

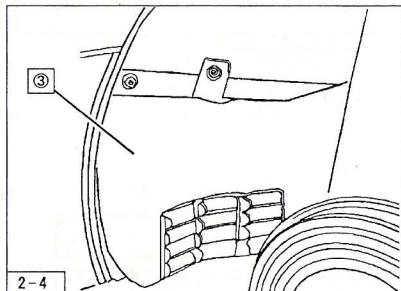


2. Install the nut for the upper damper ⑤.
(Torque specs: 35N·m)
(Diagram2-2)

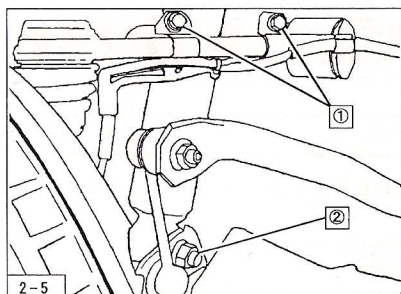
2. Installing the front dampers



3. Only in the passenger side,
install the washer liquid tank ④. (Diagram 2-3)



4. Only in the passenger side,
install the lower front inner fender ③. (Diagram 2-4)



5. Install the following:
The bolt and nut for the lower damper ②. (Torque specs: 143N·m)
The ABS speed sensor harness bolt ①. (Torque specs: 8N·m)
(Diagram 2-5)
6. Mount the wheels back on and lower the vehicle.

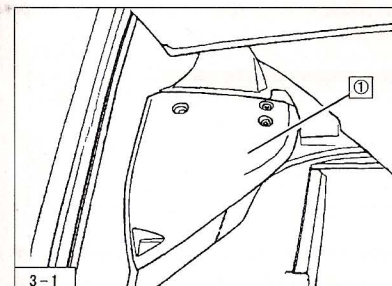
⚠ CAUTION

After re-mounting the tires, check to make sure that the product does not come into contact with the wheels/tires. Re-alignment will also be necessary.

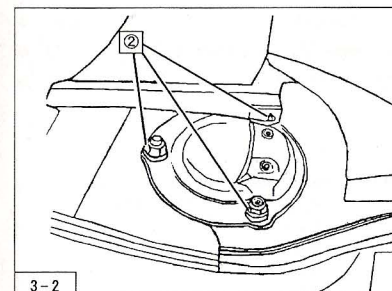
3. Removing the factory rear dampers

⚠ NOTICE

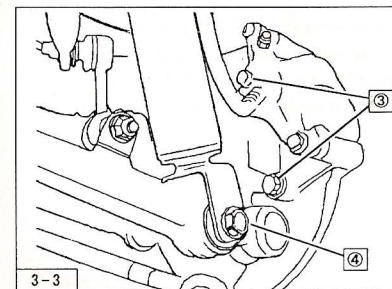
Refer to the service manual for torque specs when tightening bolts and nuts.



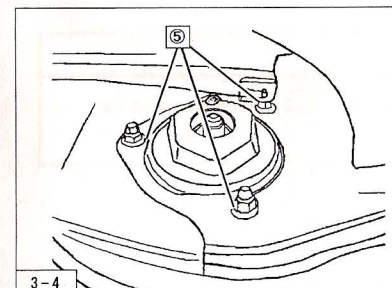
1. Remove the upper cover of the rear damper ①. (Diagram 3-1)



2. Remove the rear damper cap nuts ②;
then remove the rear damper cap. (Diagram 3-2)



3. Jack up the vehicle and remove wheels.
4. Remove the caliper bolts ③;
then remove the caliper and hold it where the hose
is not pulled. (Diagram 3-3)
5. Remove the bolt and nut for the lower damper ④. (Diagram 3-3)

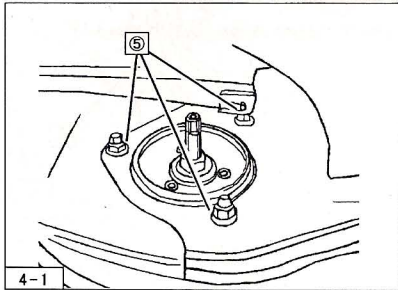


6. Remove the nut for the upper damper ⑤. (Diagram 3-4)
7. Remove the dampers from the vehicle.

4. Installing the rear dampers

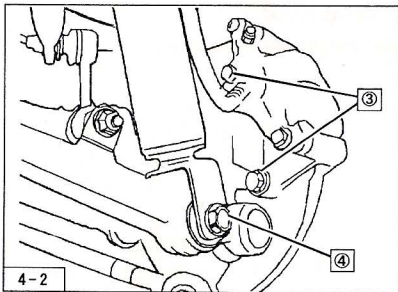
NOTICE

Refer to the service manual for torque specs when tightening bolts and nuts.



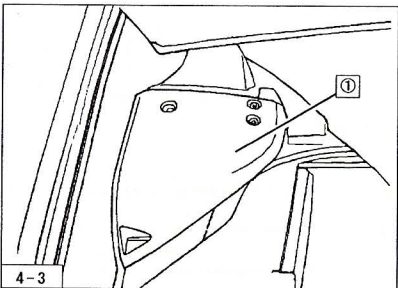
• Install the damper in reverse order of removing the factory damper.

1. Install the nut for the upper damper ⑤. (Torque specs: 25N·m) (Diagram4-1)



2. Installing the following:
Bolt & Nut for the lower damper ④. (Torque specs: 137N·m)
Caliper Bolt ③. (Torque specs: 104N·m) (Diagram4-2)

3. Mount the wheels back on and lower the vehicle.



4. Install the upper cover of the rear damper ①. (Diagram4-3)
※Do not reuse the removed rear damper cap ② in the diagram 3-2.
Secure the upper cover of the rear damper ① using a clip and a screw. The factory cover is secured using a clip and 3 screws.

CAUTION

After re-mounting the tires, check to make sure that the product does not come into contact with the wheels/tires. Re-alignment will also be necessary.

5. Adjusting the Dampening

Dampening adjustment and range

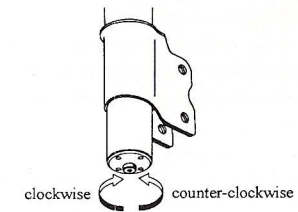
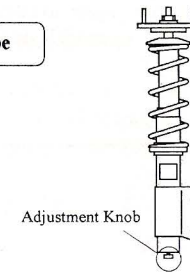
- For the standard type, insert the shaft of the adjustment dial tool into the top center of the damper.
- For the MacPherson type struts, there is an adjustment knob on the bottom section of the damper.
To stiffen the dampening ⇒ Turn the adjustment knob clockwise.
To soften the dampening ⇒ Turn the adjustment knob counter-clockwise.

	Softest Setting	Initial Setting	Stiffest Setting *
JZA80	30 clicks back from the stiffest setting	20 clicks back from the stiffest setting	First click back from turning the knob clockwise as far as it goes

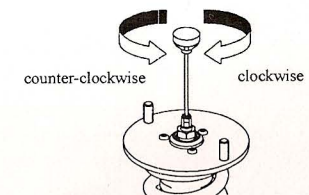
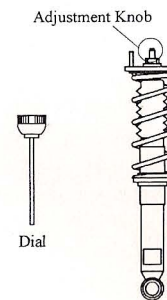
*Stiffest is the 0 click position

- The Initial Setting is the setting brand new out of the box.
- Some dampers may go back over 30 clicks, but do not exceed 30 clicks.
- Make sure that the left and right sides are set at the same dampening rate.
- Not doing so may result in unsafe characteristics.
- **DO NOT** force the adjustment knob once it stops. Overturning may damage the damper internals.

Strut Type



Standard Type



6. Adjusting the Ride Height

HKS has pre-set the ride height prior to shipment

Vehicle Height Data (mm)	FRONT				REAR			
	When Shipped	During Testing	Upper Limit	Lower Limit	When Shipped	During Testing	Upper Limit	Lower Limit
Height	649	←	692	617	659	←	668	608
Height From Factory	-43	←	0	-75	-9	←	0	-60
Shock Body Length	373	←	386	364	360	←	396	354
Spring Length	243	←	230	250	246	←	246	250
Thread Length	67	←	93	51	31	←	67	21

Check the following when the vehicle height is changed.

- Make sure there is no play in the spring when the damper is fully extended.
- Make sure the damper does not come in contact with any part of the vehicle chassis.
(ex. driveshaft, suspension arm, etc.)

⚠ CAUTION

There is a limit to shock body length adjustment. Do not exceed the minimum or maximum figures as calculated in the table below. Using the vehicle with the dampers exceeding minimum or maximum shock body length adjustment can lead to damage to the dampers.

Further, check for any contact between the dampers and the suspension arms, wheels, etc. If driven while these parts are coming into contact with the dampers can lead to damage to the dampers and/or the vehicle.

6. Adjusting the Ride Height

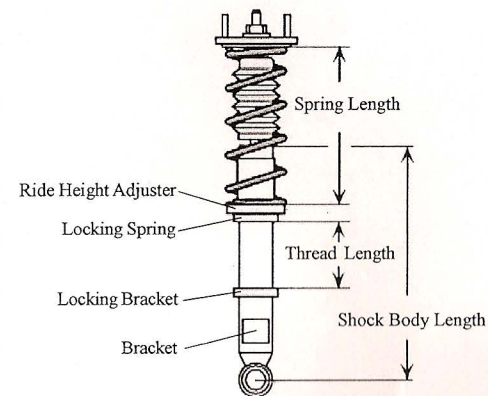
Spring Length (Preload) adjustment

- 1) Loosen the Ride Height Adjuster and Locking Collar.
- 2) Turn the Ride Height Adjuster to set height.
- 3) When the desired height is obtained, securely tighten the Locking Collar against the Ride Height Adjuster using two Hook Wrenches to specified torque specs.

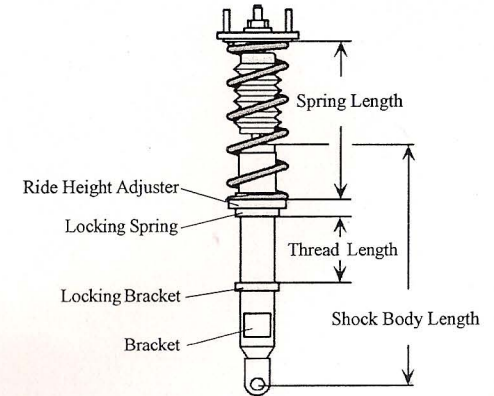
Shock Body Length Adjustment

- 1) Loosen Bracket and Locking Bracket.
- 2) To set height, turn the Locking Collar to lengthen Shock Body Length, and turn the Ride Height Adjuster to shorten Shock Body Length.
- 3) When the desired height is obtained, securely tighten the Bracket and Locking Bracket using the supplied Hook Wrench.

Front



Rear



REV. NO.	DATE
3-1.02	9/2008