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HKS 80300-AH001

HKS Hipermax S Series Coilover Full Kit Instruction Manual

Model: 80300-AH001

Compatible with: 2000-2009 Honda S2000 (AP1)

1. Introduction

This manual provides essential information for the proper installation, adjustment, maintenance, and safe operation of your HKS Hipermax S Series Coilover Full Kit. The HKS Hipermax S Series is a high-performance suspension system designed to enhance your vehicle's handling and ride quality. Please read this manual thoroughly before attempting any installation or adjustment.

Image 1: Honda S2000 (AP1) equipped with HKS Hipermax S Series Coilovers, showcasing the lowered stance and performance aesthetic.

2. Safety Information

Improper installation or adjustment of suspension components can lead to serious injury or vehicle damage. Adhere to the following safety guidelines:

- **Professional Installation Recommended:** Installation should be performed by a qualified technician with experience in automotive suspension systems.
- **Read Entire Manual:** Understand all instructions and warnings before beginning.
- **Use Proper Tools:** Ensure you have all necessary tools, including a torque wrench, jack stands, and spring compressors (if required for disassembly of OEM components).
- **Secure Vehicle:** Always work on a level surface. Use jack stands to securely support the vehicle after lifting. Never rely solely on a jack.
- **Wear Safety Gear:** Always wear appropriate personal protective equipment, including safety glasses and gloves.
- **Torque Specifications:** Adhere strictly to all specified torque values for fasteners. Overtightening or undertightening can lead to component failure.
- **Spring Compression:** Exercise extreme caution when handling springs, especially during removal or installation of OEM components. Compressed springs store significant energy and can cause severe injury.

3. Package Contents

Verify that all components listed below are present and undamaged before beginning installation. If any parts are missing or damaged, contact your dealer immediately.

Image 2: Detailed view of the HKS Hipermax S Series Coilover Full Kit package contents.

Item	Quantity
Front Suspension Assembly	2
Rear Suspension Assembly	2
Hexagon Head Bolt (M6)	2
Spacer	8
Washer	2
Flange Nut (M12)	4
Flange Nut (M6)	2
Damping Force Adjustment Dial	1
Universal Bracket	2
Hose Band	2
Hex Wrench (1.5 mm)	1
Bracket	2
Hook Wrench	1
Dial	1
Hook Wrench (12.7sq hole)	1
Damping Force Adjustment Cable (Rear, Left Side)	1
Cable	1
Warranty Card	1
Screw	3
Instruction Manual (This Book)	1

4. Component Overview

This diagram illustrates the main components of the front and rear suspension assemblies. Familiarize yourself with these parts before installation.

Image 3: Exploded view of the front and rear HKS Hipermax S Series suspension assemblies.

Key Components:

- **Upper Mount ASSY:** Connects the coilover to the vehicle chassis.
- **Spring:** Main coil spring for suspension.
- **Helper Spring:** Assists the main spring, typically to keep the main spring seated when the suspension is at full

droop.

- **Dust Boot:** Protects the damper shaft from dirt and debris.
- **Bump Rubber:** Prevents harsh bottoming out of the suspension.
- **Ride Height Adjuster:** Threaded collar used to set the vehicle's ride height.
- **Spring Lock Nut:** Secures the spring seat and ride height adjuster. (Tightening Torque: 50N·m)
- **Bracket Lock Nut:** Secures the lower bracket to the damper body. (Tightening Torque: 50N·m)
- **Bracket:** Lower mounting point for the coilover to the vehicle's knuckle or control arm.

5. Key Features and Technology

The HKS Hipermax S Series incorporates advanced technologies for superior performance and durability.



Image 4: Overview of HKS Hipermax S Series technological features.

- **Monotube Design:** Adopts the traditional monotube design of the Hipermax series for consistent damping performance and heat dissipation.
- **Inverted Type (for Straight Type):** Achieves solid rigidity against stress, contributing to excellent handling and ride comfort.
- **DUAL PVS (Dual Preload Valve System):** Refined preload valve system that smooths out rebound characteristics while suppressing unnecessary movement, resulting in a high-quality, flat ride.
- **WR Needle (Wide Range Damping Force Adjustment Mechanism):** Features a redesigned jet needle for smoother oil flow and increased maximum flow rate, expanding the 30-step damping force adjustment range for finer tuning, especially towards softer settings.
- **Advanced Bump Rubber:** Newly developed bump rubber with excellent flexibility and durability, utilized as a suspension tuning element in addition to its role as a shock absorber during full bump.
- **PNE Coat:** Applied to the full-length adjustable neck to prevent seizing due to rust. The smooth surface also reduces the force required for ride height adjustment.
- **Reinforced Rubber Upper Mount:** Provides a moderately firmer feel than genuine upper mounts, absorbing fine body vibrations for a supple ride.
- **Aesthetic Commitment:** Aluminum upper plates feature laser-engraved logos and chamfered edges for enhanced tactile feel and visual quality.

6. Setup and Installation

Installation of coilovers requires specialized knowledge and tools. It is strongly recommended that this procedure be performed by a certified professional technician.

General Installation Steps (Consult a vehicle-specific service manual for detailed procedures):

1. **Prepare Vehicle:** Park the vehicle on a level surface, engage the parking brake, and loosen wheel lug nuts. Lift the vehicle safely using a hydraulic jack and secure it with jack stands. Remove wheels.
2. **Remove OEM Suspension:** Carefully disconnect brake lines, ABS sensors, and any other components attached to the OEM strut/shock assembly. Unbolt the upper and lower mounting points and remove the OEM suspension.
3. **Prepare HKS Coilovers:** Before installation, ensure the ride height adjusters and lock nuts are set to a preliminary position (e.g., factory recommended or a known starting point). Do not fully tighten lock nuts until final adjustments are made.
4. **Install HKS Coilovers:** Mount the HKS coilover assemblies into the vehicle's upper and lower mounting points. Hand-tighten all bolts initially.

5. **Reconnect Components:** Reattach brake lines, ABS sensors, and any other disconnected components. Ensure all lines and wires have adequate slack and are not pinched.
6. **Initial Torque:** Torque all mounting bolts to the vehicle manufacturer's specifications or the HKS specified torque values (e.g., 50N·m for lock nuts).
7. **Reinstall Wheels:** Mount the wheels and hand-tighten lug nuts.
8. **Lower Vehicle:** Carefully lower the vehicle to the ground. Torque lug nuts to vehicle manufacturer specifications.
9. **Final Adjustments:** Proceed to ride height and damping force adjustments (see Section 7).
10. **Wheel Alignment:** After installation and initial driving, a professional wheel alignment is mandatory to ensure proper handling and tire wear.

7. Operating and Adjustment

The HKS Hipermax S Series allows for precise tuning of your vehicle's suspension characteristics.

7.1 Ride Height Adjustment

Ride height is adjusted by rotating the threaded lower bracket on the damper body. Use the provided hook wrenches.

1. Lift the vehicle and remove the wheel to access the coilover.
2. Loosen the bracket lock nut (50N·m).
3. Rotate the lower bracket to raise or lower the vehicle. Turning the bracket clockwise (when viewed from below) will lower the vehicle; counter-clockwise will raise it.
4. Ensure both sides of the vehicle (front or rear) are adjusted equally to maintain balance.
5. Once the desired ride height is achieved, securely tighten the bracket lock nut to 50N·m.
6. Repeat for all four corners.
7. After adjustment, lower the vehicle and bounce it a few times to settle the suspension. Re-measure ride height.

7.2 Damping Force Adjustment

The HKS Hipermax S Series features 30-step damping force adjustment. The adjustment dial is located at the top of the front coilovers and at the bottom or accessible via extension cables for the rear coilovers.

1. Turn the adjustment dial fully clockwise until it stops. This is the hardest setting (0 clicks from full hard).
2. Turn the dial counter-clockwise to soften the damping. Each click represents a step in adjustment.
3. A common starting point is 15 clicks from full hard (mid-setting).
4. Adjust damping in small increments (e.g., 2-3 clicks at a time) and test drive to evaluate changes.
5. Ensure damping settings are symmetrical across the axle (e.g., front left and front right should have the same setting).

8. Maintenance

Regular maintenance ensures optimal performance and longevity of your HKS Hipermax S Series Coilovers.

- **Regular Inspection:** Periodically inspect coilovers for any signs of oil leaks, damage to dust boots, bent shafts, or loose fasteners.
- **Cleaning:** Keep the coilovers clean, especially the threaded sections, to prevent dirt and debris from accumulating and causing corrosion or difficulty in adjustment. Use mild soap and water.
- **Torque Check:** After the first 500-1000 miles (800-1600 km) and periodically thereafter, re-check all mounting bolts and lock nuts to ensure they are torqued to specification.
- **Alignment Check:** Have your wheel alignment checked periodically, especially after any significant ride height adjustments.

- **Overhaul:** The HKS Hipermax S Series is designed to be overhaulable. If performance degrades significantly, consider having the coilovers serviced by an authorized HKS service center.

9. Troubleshooting

This section addresses common issues you might encounter.

Symptom	Possible Cause	Solution
Clunking/Rattling Noise	Loose mounting bolts, loose lock nuts, damaged top hat bushings, foreign object.	Check and re-torque all fasteners. Inspect bushings for wear. Remove any debris.
Squeaking Noise	Dry bushings, spring coil bind, dirt between spring and seat.	Lubricate bushings (if applicable). Clean spring seats. Inspect for spring contact.
Uneven Ride Height	Incorrect ride height adjustment, damaged spring, uneven preload.	Re-adjust ride height carefully. Inspect springs for damage. Ensure even preload if adjustable.
Poor Handling/Bouncy Ride	Incorrect damping settings, worn damper, improper alignment.	Adjust damping force. Inspect for oil leaks (worn damper). Get a professional alignment.
Oil Leak from Damper	Damaged oil seal, worn damper.	Contact HKS or an authorized service center for inspection and potential overhaul/replacement.

If troubleshooting steps do not resolve the issue, consult a qualified automotive technician or contact HKS technical support.

10. Specifications

Specification	Detail
Brand	HKS
Model Number	80300-AH001
Product Series	Hipermax S Series
Compatible Vehicle	2000-2009 Honda S2000 (AP1)
Automotive Fit Type	Vehicle Specific Fit
Damping Adjustment	30-step (WR Needle)
Design Type	Monotube, Full-length Adjustable
Item Weight (Full Kit)	Approximately 47 pounds (21.3 kg)
OEM Part Number	80300-AH001

11. Warranty and Support

Warranty Information:

The HKS Hipermax S Series Coilover Full Kit comes with a **3-year or 60,000 km (whichever comes first) warranty** from

the date of purchase. This warranty covers manufacturing defects and material faults under normal use. Please retain your proof of purchase for warranty claims.

This product is designed to be overhaulable, allowing for extended lifespan and continued performance through professional servicing.

Technical Support:

For technical assistance, installation queries, or warranty claims, please contact your authorized HKS dealer or visit the official HKS website for support resources.

Note: Warranty terms and conditions may vary by region. Please refer to the warranty card included with your product for specific details.

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