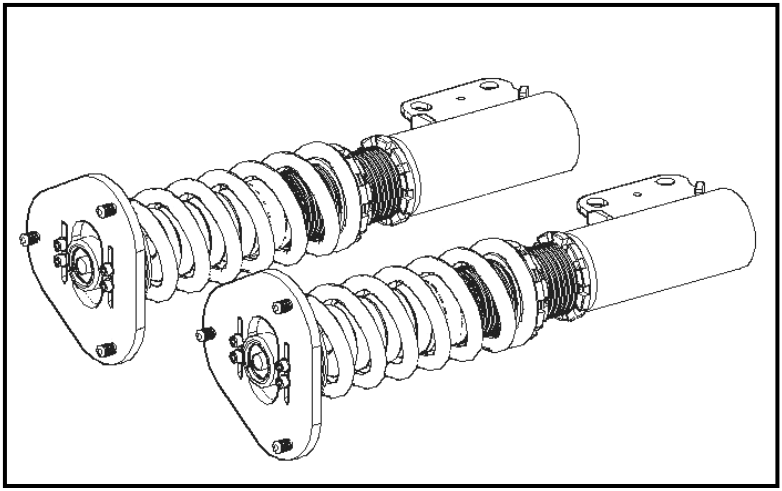
ADJUSTABLE SUSPENSION SYSTEM

INSTALLATION INSTRUCTIONS



YELLOWSPEED RACING CO., LTD.

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Thank you for purchasing a YELLOWSPEED high performance suspension system. These systems are for OFF ROAD use only. They are designed to enhance a vehicle's performance, handling and ride, therefore the specifications of this system differ from the original equipment (OE) suspension specifications.

IMPORTANT PRODUCT INFORMATION

- Please read all instructions completely before installation and save this manual for future use.
- It is highly recommended that the installation of this product be carried out by a licensed and/or experienced technician or mechanic.
- Verify that all parts are included before installation of this product.
- Verify that all components are tightened.
- YELLOWSPEED RACING CO., LTD. assumes no responsibility for damage, accidents, injuries or death resulting from installation, assembly, misuse, and/or modification of the product.
- This product is for OFF ROAD use only.
- These products may not be legally used on public roadways depending on ride height regulations and suspension restrictions for each country or municipality, and YELLOWSPEED RACING CO., LTD. takes no responsibility for any violations of traffic rules, laws or

regulations. Insurance coverage may be affected by installation or use of these products.

- Periodically clean the piston rod shaft as dirt and grit may cause scratching.
- Inspect the shock absorbers regularly.

WARNING

- Because this system contains highly pressurized gas, do not expose it to flames to avoid an explosion.
- Do not modify and/or disassemble the shock absorber system in any way. Doing so may damage this suspension system and will void the warranty.
- Do not cut or modify the bump stop in any way. Doing so may damage this suspension system and will void the warranty.

PRIOR TO INSTALLATION

- The installer assumes all responsibilities and liability for proper installation of this product. Please read all instructions completely and understand them well.
- Please refer to the manufacturer's instructions for factory strut removal.
- Do not re-use the piston rod top lock nut unless specified.
- After the machining process, a special coating is applied to the shock body to prevent corrosion. This is not oil

leakage.

INSTALLATION OF SUSPENSION SYSTEM

- Be very careful with the application of torque when using an impact wrench as improper torque application may cause the piston rod damage.
- We offer two types of the lower mounts:
  - For the lower mount with the brake line bracket – attach the brake lines and ABS harnesses to it (Diagram 1).
  - For the lower mount without the brake line bracket – the brake line brackets are supplied in the tool kit.
    ① The provided brake line brackets and O-rings are attached to the brake lines or ABS brake harnesses (Diagram 2).
    ② The brake line brackets can be adjusted or altered to make sure the brake lines are secured and fixed safely.
    ③ Turn the wheels to their full lock to verify the brake lines are in the right position, and if the brake line brackets will clear the tire and brake lines.

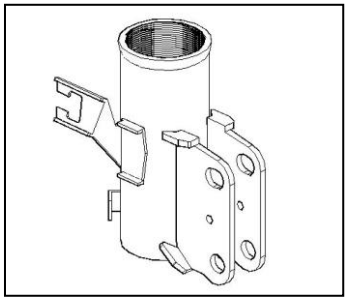


DIAGRAM 1

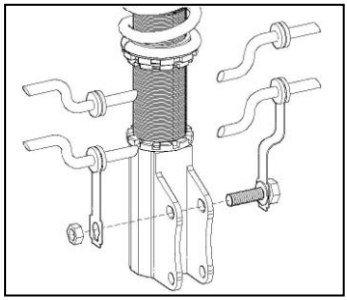
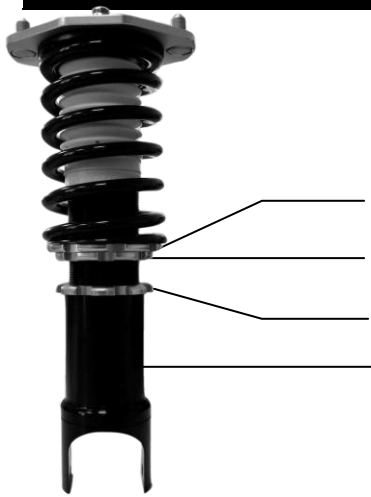


DIAGRAM 2

AFTER INSTALLATION

- Be sure all parts are installed and torqued to manufacturer's specifications.
- A wheel alignment is required after complete installation of your YELLOWSPEED suspension system.

RIDE HEIGHT ADJUSTMENT



- The ride height adjustment range may very depending on vehicle model, weight, engine size, wheel size and other related factors.
- The vehicle minimum ride height is related to the spring rate.
- Be sure to clean grit and dirt from the threaded shock body before adjusting ride height as the dirt or grit will cause the spring seat, locking ring or lower bracket to stick.
- Replacing the wheel and lowering the jack may need to be

done several times to check ride height until the desired ride height is reached.

- Unless otherwise instructed, use the lower bracket (D) to adjust the vehicle ride height.

HOW TO ADJUST RIDE HEIGHT

■ FOR APPLICATIONS WITH ADJUSTABLE LOWER BRACKET (D)

① The correct spring preload is set before the suspension kit leaves the manufacturer. Do not attempt to adjust the vehicle ride height via the spring seat (A) and the spring seat locking ring (B). (Please refer to DIAGRAM 3).

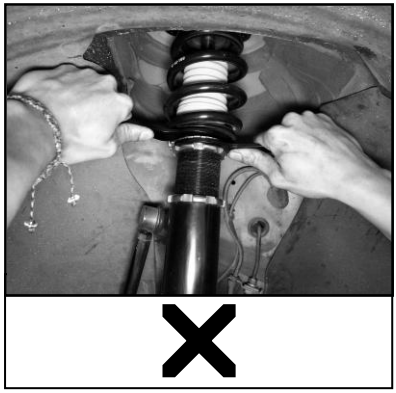


DIAGRAM 3

Do not attempt to adjust the vehicle ride height via the spring seat (A) and the spring seat locking ring (B).

② The vehicle ride height is adjusted through the lower bracket (D). Thread the lower bracket (D) up to lower, and down to raise the vehicle ride height.

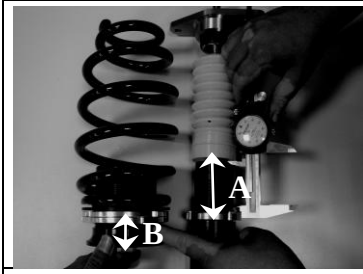
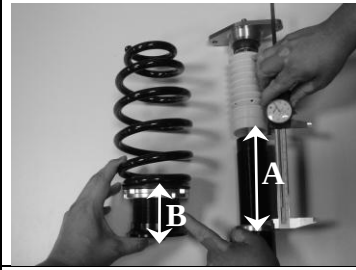
③ Use the locking ring for the lower bracket (C) to tighten the lower bracket (D). It is highly recommended that a hammer or a mallet be used (Please refer to DIAGRAM 4), or a

torque wrench be attached to the wrench supplied with the kit to tighten the locking ring for the lower bracket (C). (Please refer to DIAGRAM 5, and the 70Nm-80Nm torque is recommended).

DIAGRAM 4

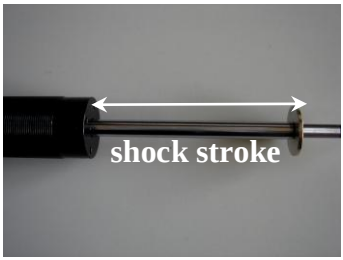
DIAGRAM 5

■ **FOR APPLICATIONS WITHOUT ADJUSTABLE LOWER BRACKET (D) (shock separate from spring)**

Lowering the vehicle ride height: shorten the distance (A) and distance (B)	**Raising the vehicle ride height:** extend the distance (A) and distance (B)
	
⇩	⇩

It's essential that BOTH distance (A) and distance (B) be adjusted when adjusting the vehicle ride height.

If you **ONLY** adjust the distance (A), the spring will be hung in the air or be compressed, this will cause shock noise or make vehicle very bouncy. Doing so will damage the shock strut as well.



Please check the shock stroke after the vehicle ride height you desire is reached. We highly recommend you to leave 2/3 of the shock stroke minimum outside of the shock body (multiply "shock stroke" by .667) for the normal operating safety range.

<u>HOW TO ADJUST REAR SHOCK STROKE (for applications without adjustable lower bracket (d) or with shock separated from spring(non-coilover strut type))</u>

※ Please skip this section if your YELLOWSPEED suspension system comes with the rear lower bracket (D).

❶ 

If no upper mount is included with your YELLOWSPEED kit, mount the original equipment (O.E.) rear top mount to the YELLOWSPEED rear shock, and use the O.E. nut to secure the O.E top mount.

❷ 

Adjust the Hi-Low Kit and spring to the vehicle ride height you desire, then install the rear shock to the vehicle. Adjust the rear shock via the lower base so that it will fit without compressing the spring. (some models do not come with the lower base)

Note: The desired vehicle ride height must be adjusted by the Hi-Low Kit and the spring first before the rear shock is installed in the vehicle. (The installation steps mentioned here must be in order).

❸ 

Once installed, measure the shock stroke (chrome section), and record this number as “A”. In general, this number is 10cm ~ 14cm.

❹ 

Replace the wheel and tire, and jack up the car on the stand then measure the distance between the fender and the tire shown in the picture, then record this number as “B”.

Note: In this step, the car must be off

the ground with nothing obstructing normal operation of the shock.

❺ 

Lower the vehicle to the ground and measure the distance between the fender and the tire, record this number as “C”. Subtract C from B and record that number as “D” (this is an amount that shock cylinder goes into the catridge)

Note: For normal shock operation, D must approach or be equal to one third of A; also, D must be in range of 3cm ~ 5cm.

Example: If A = 10cm, B = 5cm and C = 2cm then D (shock travel length) = 3cm (5cm – 2cm), and 3cm approaches to one third of A (3.33cm), and it is also in the range of 3cm ~ 5cm. So in this example the shock travel length is in normal operating range.

❻ 

After the rear shock stroke is adjusted correctly, you can start adjusting the damping setting (damping adjustment method may vary depending on the applications). According to our testing, we recommend you start at the softest setting (all the way counterclockwise) turn the adjustment knob to ‘H’ direction between 6 – 12 clicks, which is the most suitable setting for paved surface use.

Note: The recommended damping setting mentioned above is just for

your reference. You can adjust the damping knob to any setting you desire.

Each damping adjustment setting from 0 – 33 is discrete even though changes may not be felt in the cabin.

❼ 

(A)
when car is jacked up

<u>Easy Adjustment Method for Rear Shock Stroke in non coilover strut type)</u>

Put the vehicle down the ground after the vehicle ride height you desire is adjusted. Release the handbrake. Measure the distance between the fender and the tire shown in the picture (B), it is about 3cm ~ 4cm.

Jack up the car off the ground, then measure the distance between the fender and the tire shown in the picture (A), the measurement is about 7cm ~ 8 cm.

(B)
when car is on the ground

Once the shock stroke adjustment is incorrect, readjusting the lower base to get the correct shock length is required.

NOTE: If incorrect shock stroke occurs, this would cause the shock oil leaking and damage.

Also, the vehicle ride height is adjusted by the Hi-Low Adjuster, and vehicle ride height adjustment has nothing to do with shock stroke.

DAMPING FORCE ADJUSTMENT

- The YELLOWSPEED suspension kit features 33-way adjustable damping settings. The damping force is not preset.
- Four adjustment knobs are supplied in the tool kit.
- Insert the adjustment knobs into the top of the each coilover.
- Do not turn the adjustment knob past the last setting. Doing so will damage the suspension system.
- The damping setting of the front and rear coilovers can be at different settings; however, the damping setting of the left and right coilovers on the same axle should be the same to avoid uneven tire wear and incorrect handling balance.
- It is recommended that the vehicle be driven at the standard damping setting for daily use.
- Damping adjustment method may vary depending on the applications.
- Some vehicle parts and/or interior panels or shock itself may have to be removed to adjust the damping force.
- Cover the adjustment holes if the adjustment knobs are not inserted into the top of the coilovers.

HOW TO ADJUST THE DAMPING FORCE

■ FOR THE HARDEST SETTING – turn the adjustment knob fully clockwise.

■ FOR THE SOFTEST SETTING – turn the adjustment knob

fully counterclockwise.

■ FOR STANDARD SETTING:

FRONT	Turn the adjustment knob to 12 clicks from the softest setting
REAR	Turn the adjustment knob to 8 clicks from the softest setting

Note: The recommended damping setting mentioned above is just for your reference. You can adjust the damping knob to any setting you desire.
Each damping adjustment setting from 0 – 33 is discrete even though changes may not be felt in the cabin.

WARRANTY

- YELLOWSPEED RACING CO., LTD. warranties the street shock insert for 15 months from the date of purchase (inserts used in racing applications are not covered under any warranty). All products sold are new and fully inspected to be free from defects in materials, manufacturing and workmanship at the time of delivery.
- Any products sold can not be returned to the manufacturer unless specify arranged otherwise.
- YELLOWSPEED RACING CO., LTD. will inspect and determine whether the products are defective before any warranty claim is issued. Warranty inspection results will be based on the findings/ data of the YELLOWSPEED Technician.
- During warranty period, the loss of time, labor cost, transportation charge, commercial loss, inconvenience

and loss of use of the product or vehicle is not covered.

- Squeaking noise may occur in rare cases from the shock absorbers and this is normal, hence the product warranty does not cover any noise issue. Most suspension kits are fitted with pillow ball upper mounts to improve handling; however, pillow balls on some applications may create rattling sound. This is normal and does not affect the product's performance. The product warranty does not cover any rattling sound issue caused by the pillow balls. (Hardened rubber upper mount without pillowball is also available. Hardened rubber upper mount is offered for noise reduction).
- The spring bearing is consumptive product such as pillow ball bearing, rubber bushing, brake pads, brake rotor, oil seal etc.., and it will be worn out or deformed after having been used for a certain period. Therefore, the warranty does not cover spring bearings or metal shims that go on top and bottom of the spring bearings.
- YELLOWSPEED RACING CO., LTD. reserves the right to product's design and change for improvements without notice.
- YELLOWSPEED RACING CO., LTD. assumes no responsibility for any accidents, injuries, damage or death caused directly or indirectly by the product.
- YELLOWSPEED RACING CO., LTD. will not take any responsibility for errors and/or omissions in these instructions.

IN PURSUIT OF YOUR OPTIMAL SUSPENSION

Safety

Durability

Innovation

Technology

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YELLOWSPEED RACING CO., LTD.

Contents Check Sheet

TYPE & MODEL

Work No.

Item Description			Checked
1. Strut		Front * 2, No. _____ and No. _____ Rear * 2, No. _____ and No. _____	☐ ☐
2. Upper Mount		Front * 2 Rear * 2	☐ ☐
3. Spring		Front * 2 Rear * 2	☐ ☐
4. Hi-Low Kit		Front * 2 Rear * 2	☐ ☐
5. Spring Seat		2 / 4 pieces in total	☐
6. Locking Ring		_____ pieces in total	☐
7. Dust Boots		Front * 2 Rear * 2	☐ ☐
8. Lower Bracket		Front * 2 Rear * 2	☐ ☐
9. Other		Tool Kit * 1 Installation Instruction * 1 (including Contents Check Sheet)	☐ ☐

Inspector: