NEBBIA

User Manual –

This user manual contains all the relevant information regarding the correct use and maintenance of the Nebbia air shock.

Index

Important Information

IMPORTANT	
	Constantly referring to this manual ensures the best performance, a long-lasting air shock and ensures avoiding the most common cause of inconvenience and accidents that could happen during its use or maintenance. Products used repeatedly in extreme conditions will require more frequent servicing. The use of high-pressure washing methods, non-original spare parts and non-recommended solvents and lubricants reduces the lifespan of our products.
IMPORTANT	
	Formula recommends only ORIGINAL spare parts and lubricant products. Do not attempt assembly and disassembly operations on this product. Formula recommends consulting servicing technicians for these activities and finding eventual cracks, deformations, or evidence of damage due to fatigue or wear: if the inspection shows the presence of such problems, even if minor, immediately replace the component – with no attempts of repair.
SAFETY INFORMATION	
Formula HSE Health-Safety-Environment 	Always wear nitrile gloves and safety glasses when working on the shock absorber. Ensure correct disposal of waste materials and liquids. Always ensure the shock absorber is fully depressurized when specified in the manual. Servicing the shock absorber whilst pressurized can cause severe or fatal injuries.

Safety Guidelines

- Accidents and excessive or improper use of the bike can alter the structural integrity of the shock absorber, greatly affecting its life span.
- Parts that have been bent or damaged following an accident must be replaced immediately with original Formula spare parts.
- Formula products and tools could be incompatible with third-party products or tools and vice-versa. Before using third-party items, ensure compatibility with a qualified technician or a tool manufacturer. The company declines any responsibility for malfunctions caused by improper tool use;
- The shock absorber's user is aware that there are risks from riding a bike, including, but not limited to, failure of the bike components which could lead to accidents with personal injuries or death.
- By buying and using the shock absorber, the user explicitly accepts, voluntarily and consciously and knows the risks, including passive negligence from Formula, such as hidden defects and exempts Formula from their responsibility in the highest measure allowed by the law against any damage derived from their use.
- Before driving the bicycle ensure that brakes are installed and set up properly. Incorrect setup could cause severe accidents.
- When riding the bicycle in the wet remember that the handling is significantly reduced making it harder to ride and the braking power could alter quickly due to the gradual drying of the brakes.

Maintenance Intervals

To keep the rear shock absorber efficient during normal usage and ensure proper maintenance, follow the maintenance intervals chosen by Formula:

Procedure	Before and After any use	Every 16 Hrs 1 Month	Every 35 Hrs 3 Months	Every 60 Hrs 6 Months	Every 125 Hrs 1 Year
Visual inspection	X				
Wash with water and mild soap	X				
Check SAG and air pressure		X			
Check piggyback reservoir pressure			X		
Air seal replacement				X	
Oil change and complete inspection					X

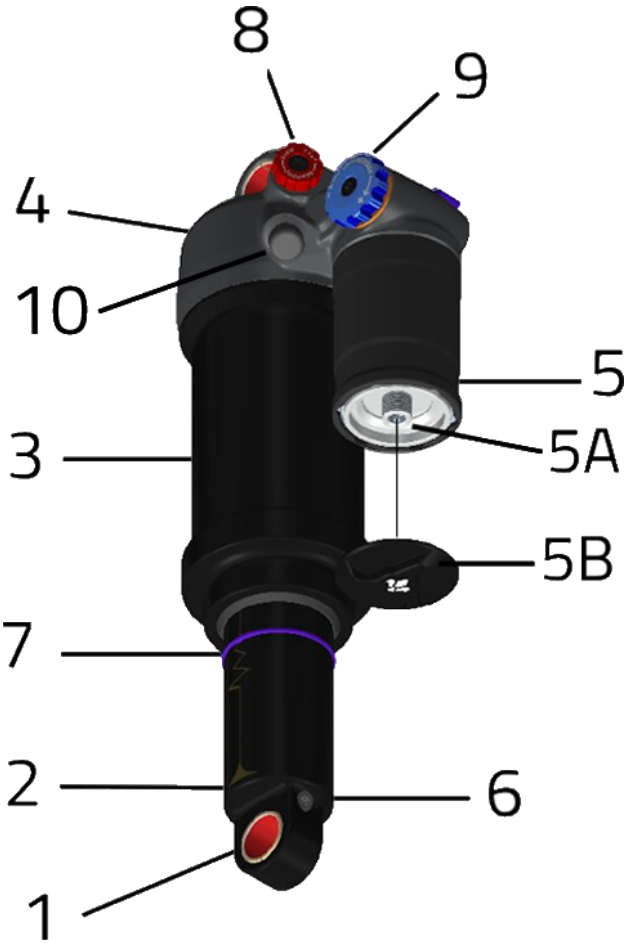
⚠ Assembling the air shock in a Yoke chassis requires constant monitoring of the chassis screws and their correct tightening torque. Yoke shock absorbers require more frequent maintenance intervals: 50 hours for the air seals and 100 hours for the oil change and complete inspection.

Required Tools

- Formula Pump;

Nebbia Air Shock Specifications

Ref.	Descrizione	Description
	Componenti strutturali	Structural components
1	Occhiello	Eyelet
2	Cartuccia	Cartridge
3	Serbatoio Aria	Air Sleeve
4	Corpo Ammortizzatore	Body Shock
5	Piggyback	Piggyback
	Componenti funzionali	Functional components
5A	Valvola Aria Piggyback	Piggyback Air Valve
5B	Tappo Piggyback	Piggyback Cap
6	Vite Spurgo	Bleeding Screw
7	O-Ring per SAG	O-Ring for SAG
8	Regolatore Rebound	Rebound Adjuster
9	CTS	CTS
10	Valvola Aria Serbatoio	Air Valve for Air Sleeve
11	Leva Lock-Out	Lock-Out Lever



Shock Installation

Clearance check between shock absorber and bike frame

After purchasing the Nebbia air shock, it's important to check the clearance between the shock absorber and the frame or linkage for the entirety of its travel. The air shock is provided with a standard pressure of 150 psi, always use the Formula pump and perform checks as explained by Formula to properly check the pressure to avoid improper pressure checks.

1. Install Formula hardware on the shock absorber depending on the bike frame-specific measures;
2. Install the Nebbia air shock on the chassis and tighten its screws;
3. Slowly depressurize the shock absorber from the air valve (10);
4. Slowly compress and extend the shock absorber through its entire travel. Ensure there are no interferences with the frame or linkage;
5. Gradually add air pressure to the air shock, it will slowly extend fully when the two chambers are equilibrated (this usually happens below 100 psi). If this doesn't happen, it means the negative chamber is not equilibrated with the positive chamber and you must repeat the steps above.

⚠ Do not manually extend the shock absorber from the swingarm. If the problem persists, disassemble the shock absorber from the frame and repeat the procedure.

Formula provides general guidelines for the air shock pressure; however, the pressure could significantly vary between frames, as they could vary as much as 30 psi, it's important to make the required adjustments if necessary.

Rider Weight		Pressure
KG	LBS	PSI
50 - 60	110 - 132	120 a 130
60 - 70	132 - 155	130 a 140
70 - 80	155 - 175	140 a 150
80 - 90	175 - 200	150 a 170
90 - 100	200 – 220	170 a 190
100+	220+	190 a 210

SAG Setting

Setting up the SAG is useful for understanding the shock absorber's behaviour depending on the rider's weight and the bike discipline.

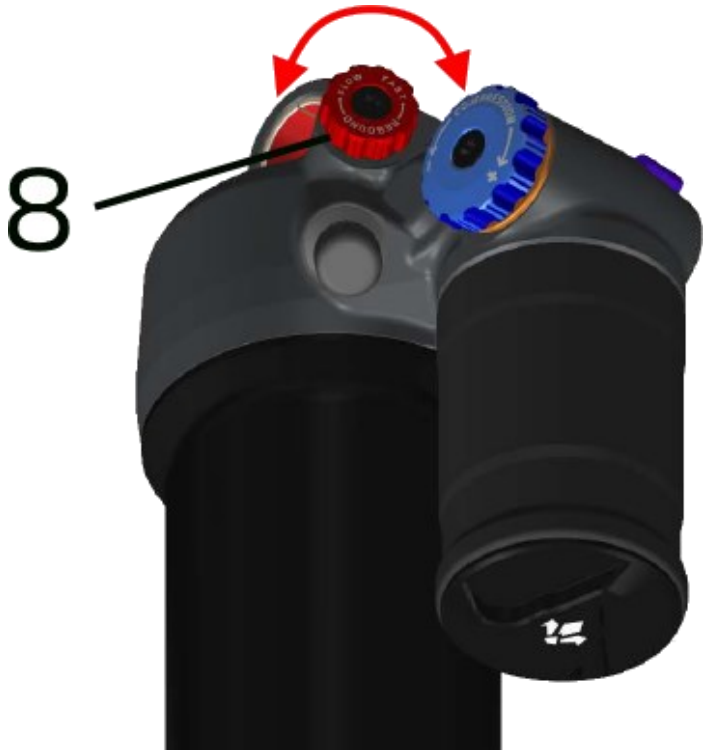
1. The SAG INDICATOR is a quick way to recognise the SAG depending on the bike usage: the SAG increases when the OR for SAG is farther from the seals. Place the OR for SAG (7) depending on the discipline:
    a. DH (1-2);
    b. TRAIL/AM/ENDURO (3-4);
    c. XC/Down Country (5-6);

2. While wearing full MTB gear and with the help of another person, sit on the bike in a normal riding position and slide the OR for SAG (7) near the dust seal of the air chamber;

If the SAG requires further adjustments:
• To increase the SAG: increase the pressure;
• To decrease the SAG: decrease the pressure.

Rebound Adjuster

The rebound adjuster (8) allows to adjust the rebound of the shock absorber after a compression. The higher the pressure inside the shock absorber, the faster it extends after the compression.

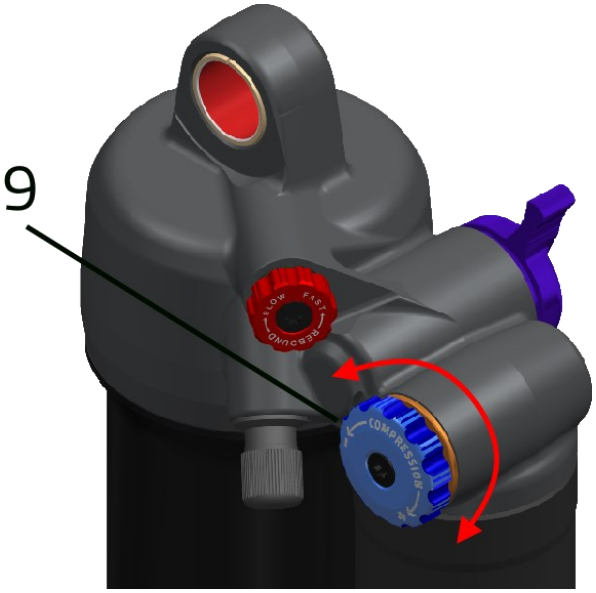


To increase the rebound force, rotate the adjuster clockwise. Viceversa, to reduce it.
During the initial set-up, Formula suggests closing the adjuster by fully rotating it clockwise and then rotating it anti-clockwise by 12 clicks.

-End of Procedure-

Compression Adjuster (CTS)

It’s possible to adjust the compression with the blue CTS adjustment knob (9). The compression phase is the first one that happens after a jump, for example. The compression range can be altered by the air shock pressure.



Rotate the knob clockwise to increase the shock absorber’s force during compression; this allows for better support in the rear end of the bike. Rotating the knob anti-clockwise, instead, reduces the support on the rear end. During the initial set-up, Formula suggests fully rotating the adjuster clockwise and then rotating it anti-clockwise by 10 clicks.

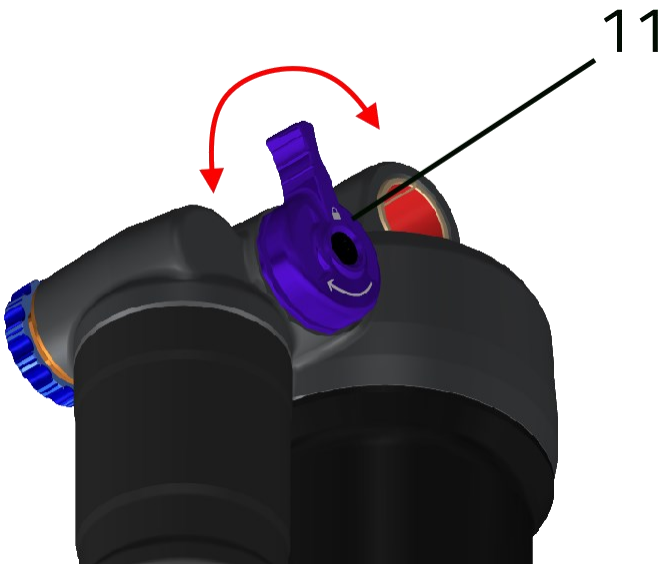
Thanks to the CTS (Compression Tuning System) you can fine-tune your suspension quickly with extreme accuracy. Each user has 3 CTS to choose from depending on your riding style: SOFT, MEDIUM, FIRM. You set it up by yourself in five minutes, in your workshop. Read the paragraph to change the CTS.

Figure 1QR Website

-End of Procedure-

Lock-Out Lever

The Lock-out lever gives more support during the compression phase of the shock absorber to improve efficiency during riding. This is useful especially when ascending with an MTB. You can choose the preferred setting with the purple lever (11).



The Lock-Out has 3 clicks, each one corresponds to a specific setting: open, platform and closed.

- The open position can be obtained by fully rotating the lever anti-clockwise: we suggest using this setting while descending;
- The intermediate position can be obtained by rotating the lever by one click from fully open: we suggest using this setting during technical riding sessions (ascending on small trails);
- The closed position is obtained by fully rotating the lever clockwise: we suggest using this setting while ascending on the tarmac;

The system also has a THRESHOLD feature (or Lock-Out Force): it works when the Lock-Out is on the platform setting: it acts when the lockout is active; when pressure is exceeding a designated value inside the shock absorber, a passage opens to avoid damage to the shock absorber.

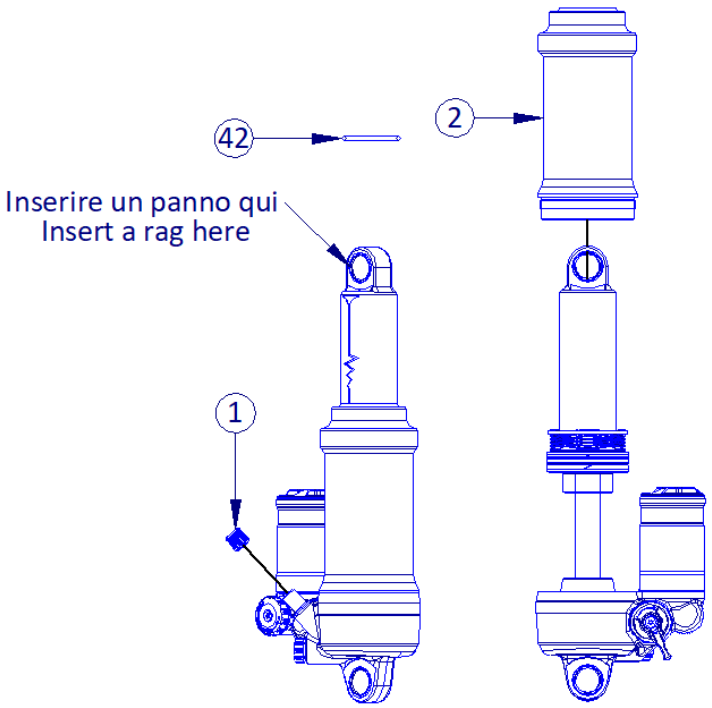
-End of Procedure-

Required Tools:

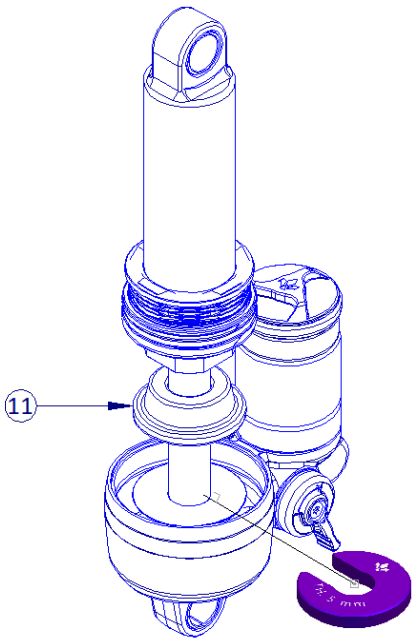
Bench Vise, Formula grease.

Procedure:

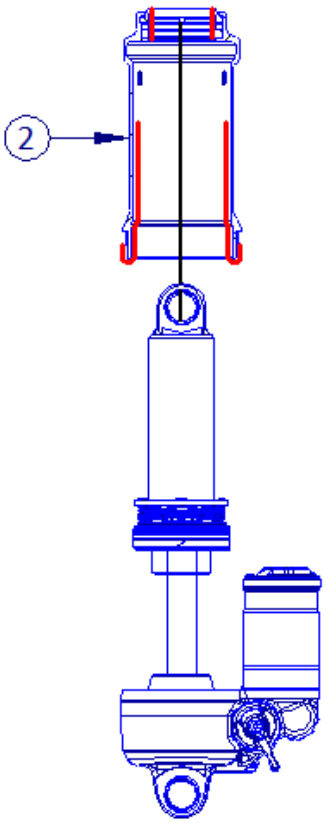
1. Place the shock absorber in a bench vise with plastic jaws to prevent damage. Remove the SAG indicator o-ring (42);
2. ⚠ Fully depressurize the reservoir from its valve (1) ensuring the pressure is zero. Disassembling a pressurized shock absorber can cause severe injuries. Before proceeding insert a rag in the eyelet of the shock absorber's cartridge;
3. Unscrew the air sleeve (2) by hand (grippy gloves will help) and carefully remove it from the shock absorber;



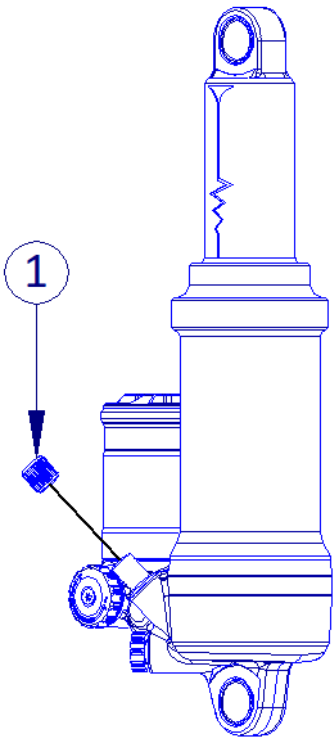
4. Pull upwards the bumper (11) and fix the spacer(s) on the stem, right above the support for the bumper until you obtain the desired stroke;



5. Move the bumper (11) on the spacer, then apply grease to the air sleeve (2) where highlighted in red and insert it onto the shock absorber, tightening it by hand;



6. Pressurize the shock absorber to 150 psi and screw on the air valve cap (1). During the pressurization of the shock absorber, it will extend until it reaches the correct centre distance. If this doesn't happen, disassemble again the shock absorber and inspect the air seals.



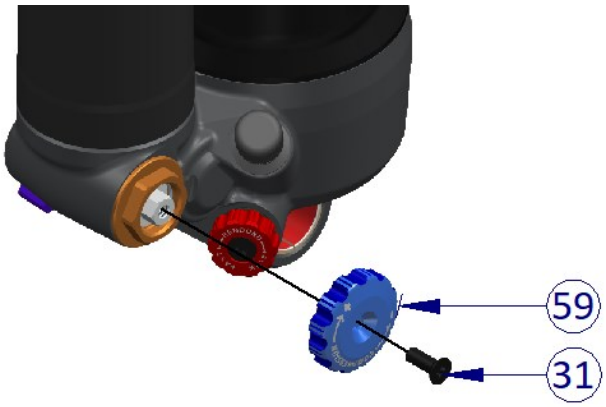
-End of Procedure-

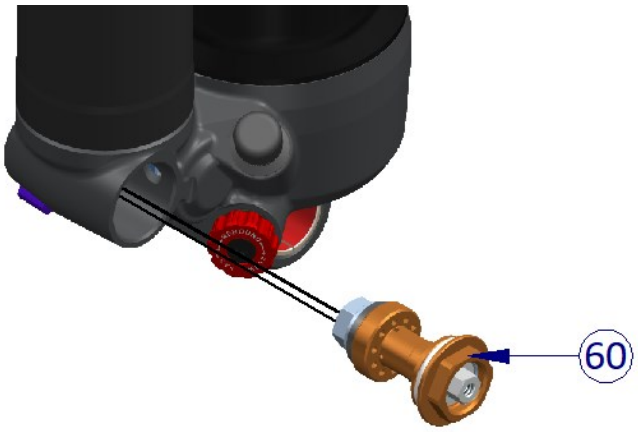
Required Tools:

Bench Vise, Formula grease, Torx T10, 13 mm Socket Wrench.

Procedure:

1. Unscrew the piggyback cap (5B) and press the air valve (5A) to remove air from the shock absorber. Screw the piggyback cap (5B) before proceeding;
2. Keep the CTS facing upwards to avoid oil leaks during the procedure. Remove the CTS screw (31) with a Torx T10 and remove the adjuster (59). Unscrew the CTS (60) from the body with a 13 mm socket wrench;





3. Insert the desired CTS inside the body shock with a 13 mm socket wrench and a tightening torque of 7 Nm. Fix the CTS adjuster (59) with the screw (31) with a Torx T10;
4. Unscrew the piggyback cap (5B) and pressurize the piggyback at 100 PSI from the air valve (5A) with a Formula air pump and screw the piggyback cap (5B).

Figure 1 CTS Installation Guide

-End of Procedure-

Troubleshooting

Problem	Root Cause	Solution
The shock absorber is too fast during extension, or after a jump the rear end of the bike throws me forward	Rebound setting is too open	Rotate clockwise the rebound regulator by 1/2 clicks at a time and try again
The shock absorber is too slow during extension, or, during the descent the shock absorber is not reactive enough	Rebound setting is too closed	Rotate anti clockwise the rebound regulator by 1/2 clicks at a time and try again
The shock absorber has too much SAG or is too compressed during normal usage, the bike is unbalanced towards the rear end	Pressure too low based on the rider's weight or compression setting too open	Increase the pressure by 10 psi at time and try again, then rotate clockwise the CTS by 1/2 clicks at a time and try again
The bike is unbalanced towards the front end	Pressure too high based on the rider's weight or compression setting too closed	Decrease the pressure by 10 psi at a time and try again, then rotate anti-clockwise the CTS by 1/2 clicks at a time and try again
The shock absorber remains compressed and doesn't extend to the initial position when getting off the bike	Incorrect pressurization procedure or issue with the air seals	Wear safety glasses Disassemble the shock from the frame, completely remove pressure from the air sleeve and tighten the body shock in a bench vise. Insert a rag in the eyelet and manually unscrew the air sleeve with grippy gloves. ATTENTION: there is pressure inside the negative chamber. When opening the air sleeve air could be suddenly released and cause dangerous situations. Strongly suggested to get in touch with customer support for inspection and servicing
Levers or regulators are loose	The screw is not tightened	Tighten the screw with a Torx T10
The lock-out doesn't block properly or doesn't work at all	Loss of hydraulic pressure inside the shock absorber	Do not use the shock absorber. Get in touch with customer support for inspection and servicing
The installed CTS doesn't have the desired setting	The frame or rider's characteristics require a different CTS	Try to change CTS by picking one of your liking (Page 8)
The extension adjuster doesn't work. The rebound is fixed and rotates but there are no changes between all-open or all-closed	The extension stem is blocked or there is a malfunction in the system	Do not use the shock absorber. Get in touch with customer support for inspection and servicing

During the complete extension (TOP OUT) the shock absorber makes a vibration that can be felt from the frame	Damping for the TOP OUT not working	Wear safety glasses. Disassemble the shock from the frame, completely remove pressure from the air sleeve, tighten the body shock in a bench vise. Insert a rag in the eyelet and manually unscrew the air sleeve with grippy gloves. Ensure the air seals are properly assembled and there are no anomalies in the components. ATTENTION: there is pressure inside the negative chamber. When opening the air sleeve air could be suddenly released and cause dangerous situations. Strongly suggested to get in touch with customer support for inspection and servicing
The shock absorber produces hydraulic noise and it doesn't work constantly during the compression phase	Air in the hydraulic side	Do not use the shock absorber. Get in touch with customer support for inspection and servicing
Oil leak on the cartridge	Oil leak from the hydraulic seals or the cartridge OR	Do not use the shock absorber. Get in touch with customer support for inspection and servicing

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