Valve Spring Compressor Instructions

Safety Information

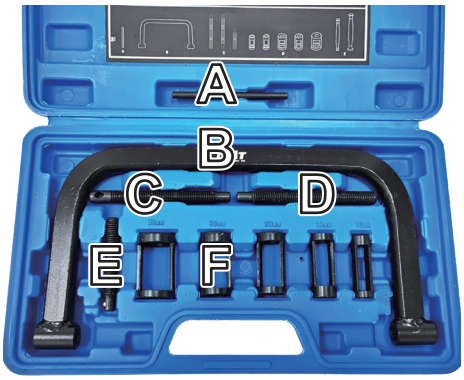
⚠ Warning!

- The instructions provided herein are only for general information. **ALWAYS** perform all repairs in full compliance with your vehicle's service manual. After any repair, test your engine and vehicle in your workshop and at low speed before returning to normal use. Failure to do so may result in serious property damage, and severe personal injury.
- **DO NOT** allow children or those unfamiliar with this product and its compatible valve springs to use it. Do not use while under the influence of alcohol, drugs, or any medication that negatively affects your judgment or reflexes. Keep children and bystanders away during use.
- Keep your work site clean and well lit. Cluttered and dark work areas invite accidents.
- For best results, keep the kit clean and dry. Remove any fluid, oil, or grease before and after work, particularly from the handle and fittings.
- **ALWAYS** use personal protective equipment (PPE) suitable to your task. Always wear ANSI-approved eye and hand protection while using this product. Nonslip footwear is also highly recommended. Other equipment such as ear, head, and body protection may also be necessary depending on your work and other equipment.
- Dress properly for automotive servicing. Do not wear loose clothing or jewelry and keep hair, clothing, gloves, hoses, and tools away from any moving parts during use.
- **ALWAYS** know and understand the specific safety warnings and instructions for your vehicle before using this kit. Use the correct adapters for your vehicle. Make sure the parking brake is activated before beginning any work. Use with jack and jack stands able to fully support the necessary weight. Never touch any heated surface with exposed skin.
- Do not overreach. Keep proper footing and balance at all times.
- **DO NOT** use excessive pressure with this product and do not force it or its attachments.
- Maintain this product. Check for misalignment, binding, wear, or other damage before use. If any damage is detected, repair or replace the problematic components before further use. In a large shop, mark such tools **DO NOT USE** until they have been repaired. Only replace components with identical parts.

Specifications

Material		AISI 1045 Steel	
Adapter Diameters		16 mm, 19 mm, 23 mm, 25 mm, & 30 mm	
Adapter Length		1.8 in.	4.5 cm
Extension Bolt Lengths		3 & 4.4 in.	7.5 & 11.2 cm
Max. Jaw Opening		9.4 in.	24 cm
Case Dimensions		14×2.4×9.1 in.	35.1×6×23 cm
Lapping Tools	**Length**	8.7 & 9 in.	22.2 & 22.8 cm
	Suction Cup Diameters	0.6, 0.7, 1.1, & 1.4 in.	15, 19, 28, & 35 mm
Net Weight		5.1 lb.	2.3 kg

Parts List



No.	Name	Qty.
A	T-Handle Bar	1
B	C-Clamp	1
C	T-Handle Bolt	1
D	Long Extension Bolt	1
E	Short Extension Bolt	1
F	Collet Adapters	5

Included but Not Pictured
Lapping Tools × 2
Gloves × 2

Maintenance

- Clean the tool with a soft damp cloth using a mild detergent or solution after use. Do not rinse it or use abrasive cleaners or caustic chemicals.
- For best results, lubricate the tool with high-quality anticorrosive oil between uses.
- Check the parts of the tool periodically for any wear or damage. Repair or replace any problematic parts before further use.
- If the tool will not be used for an extended period of time, clean and lubricate it and store it in a cool dry place inaccessible to children.

Operation

1. Position a dowel or socket on the valve spring retainer. Make sure the dowel or socket is similar in size to the retainer and not positioned on the valve. Tap the top of dowel or socket with a hammer. This loosens the valve collets from the spring retainer.
2. If applicable, remove the clip from the valve collets.
3. Determine which valve spring adapter and extension bolt best fit the application, ensuring the adapter does not interfere with the valve collet. Thread the adapter onto the extension bolt.
4. Thread the extension bolt and T-handle bolt into the C-clamp.
5. Position the cup on the end of the T-handle bolt against the valve from beneath. Position the compressor with the adapter centered squarely on the spring retainer.
6. Turn the T-handle bolt clockwise using the T-handle bar to compress the valve spring and expose the collets.
7. Remove the collets. Loosen the T-handle bolt to release pressure on the compressor and remove the compressor tool. The valve spring assembly can now be removed from the cylinder head.
8. To lap the valves, use a metal brush to remove any incrusted carbon and clean the valve and its seat. Add a small amount of grinding paste around the outside of the valve and attach the lapping tool with the best matching suction cup to the head of the valve. (A bit of grease or water can help the suction cup produce a strong seal with good grip.) Insert the valve back into its port. Quickly but evenly rotate the lapping tool between your hands and listen for the change in tone from a grinding sound to a smooth one. Once the tone has changed, partially remove the valve and apply a bit more grinding paste. Reinsert the valve and continue to quickly and evenly rotate the lapping tool until both the valve head and seat are equally shiny without any dull patches. Clean the valve and port.
9. Install new valves, retainers, springs, and collets/keepers (or reinstall the old ones) by reversing the procedure for removal. Be careful to replace all parts in the exact ports and positions from before. A bit of grease can help hold collets/keepers in place during reassembly. Be sure all parts are well seated and hold properly before releasing tension and moving on to your project.

Contact Us

Thank you for choosing our products! If you have any questions or comments, contact us at **support@orionmotortech.com** and we'll resolve your issue ASAP!

For a .pdf copy of the latest version of these instructions, use the appropriate app on your smartphone to scan the QR code to the right.