

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

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PITTSBURGH[®] AUTOMOTIVE

59677

ENGINE CYLINDER HONE



Visit our website at: <http://www.harborfreight.com>

Email our technical support at: productsupport@harborfreight.com

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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⚠ WARNING

Read this material before using this product. Failure to do so can result in serious injury. **SAVE THIS MANUAL.**

Specifications

Capacity	2"-7"
Shaft	5/8"
Grit	220
Stone	4"

Important Safety Information

1. Wear ANSI-approved safety goggles during use.
2. Inspect before use; do not use if parts loose or damaged.
3. Use as intended only.
4. Follow directions in vehicle's service manual.
5. Keep work area clean and well lit.
6. Keep bystanders out of the work area.
7. Do not use when tired or when under the influence of drugs or medication.
8. This product is not a toy. Do not allow children to play with or near this item.
9. Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

Note: For best results, use a lubricant such as engine oil while honing cylinders.



SAVE THESE INSTRUCTIONS.

Operation

Important: Before use, apply a liberal amount of engine oil on the cylinder walls to improve the surface finish and prolong the life of the stones.

Note: Not intended to change the cylinder bore diameter, remove deep scratches or ridges.

Note: The following instructions are general instructions, follow your vehicle's service manual instructions.

Note: Honing cylinders correctly is a delicate process that can damage a cylinder if done incorrectly. Harbor Freight is not liable for damage caused by incorrect technique or misuse.

1. Inspect all three stones carefully for cracks, damage and wear. Do not use hone if any stone is cracked, damage or worn.
2. Set drill speed using the following equation:
Drill RPM = $1200 / \text{Cylinder Diameter}$
For example: $1200/3$ (3 inch cylinder diameter) = 400 RPM.
3. Insert Cylinder Hone into drill chuck and tighten.
4. Position Hone Stones inside to contact cylinder walls.
5. Adjust Tension Adjustment Nut until stones slide along walls with little resistance.

Note: Placing too much tension will prematurely wear the stones and could damage the cylinder walls.

6. Keep drill and hone shaft centered inside cylinder at all times.
7. Continuously slide hone in and out of the cylinder using the recommended speed. Do not allow the stones to extend out of the cylinder more than $\frac{1}{4}$ ".

Note: Do not stop moving hone up and down at any time.

8. Hone cylinder until desired surface finish is reached.
9. Stop drill and hold hone stones in from sides of cylinder while pulling hone out of the cylinder. Firmly hold cylinder hone to prevent damage.
10. Clean cylinder walls to remove any grit and oil residue.
11. Clean hone stones with a degreaser. Then store in a safe, dry location out of reach of children.

Parts List and Assembly Diagram

Part	Description	Qty
1	Shaft	1
2	Hone Stone	3
3	Tension Adjustment Nut	1



Record Serial Number Here:

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts. Specify UPC 193175538468 when ordering parts.

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