



**How to install your new DuraTrax piston/cylinder assembly into your O.S.® Max® .12 Series R/C engine:**

- ❑ 1. Use a 2mm hex wrench to loosen and remove the four bolts on the cylinder head, and the four bolts that retain the rear cover. Remove the cylinder head and rear cover carefully.

## TOOLS REQUIRED

- ❑ 2mm hex wrench
- ❑ #1 Phillips screwdriver (for engines equipped with recoil starter)
- ❑ After-run oil, or similar lubricant (do not use household oils such as 3-in-1, WD-40, or Liquid Wrench)

**General:** At all times, refer to the above diagram for the correct parts installation and alignment.

## DIRECTIONS

### **Disassembly**

Use alcohol or fresh, clean fuel to rinse the outside of the engine thoroughly before beginning the disassembly process.

*If your engine has a recoil starter, remove the four bolts by using the Phillips screwdriver. Carefully pull the recoil starter rearward to remove it. Do not allow the spool in the center of the recoil starter to come out of the housing. Then, remove the four screws that hold the aluminum rear cover onto the engine.*

- ❑ 2. The cylinder head should have a circular aluminum gasket inside it. If not, it is still attached to the top of the Sleeve. Remove the gasket and lay it back on the inside of the head.
- ❑ 3. Carefully note that the cylinder liner has a notch in the rim, along the top. This is for the alignment pin in the crankcase. Carefully slide the cylinder liner straight up, out of the crankcase. You may have to give it a push from the bottom side if it sticks a bit.
- ❑ 4. Once the cylinder liner has been removed, you can then pull the bottom of the connecting

rod off of the crankshaft pin. Remove the piston/rod assembly through the top of the crankcase. **Note that the piston has a hole in its side, and how it is oriented in the cylinder.** Also make sure you note which side of the connecting rod faces the rear cover. It must be reinstalled with the same orientation.

❑ 5. Carefully press the wrist pin out of the piston, and remove the connecting rod.

### **Re-assembly**

❑ 1. Install the connecting rod in your new piston so that it is in the same position as it was in your original piston.

❑ 2. Use alcohol or fresh, clean fuel to rinse off any dirt that may be on the top or inside the crankcase. Generously use after-run oil to lubricate and coat the inside of the crankcase and the rear bearing.

❑ 3. Lubricate the piston and connecting rod with after-run oil, and install it in the crankcase in the reverse manner as you removed the piston/rod assembly.

❑ 4. Generously lubricate the cylinder liner inside and out. Carefully slide it into the crankcase and over the piston. You may have to "jockey" the piston a small amount to get it to slide into the cylinder liner. It's easier if you rotate the crankshaft so that the piston is as low as possible. Make sure the hole in the piston is on the side **AWAY** from the exhaust port in the crankcase. **Do not** rotate the engine.

Slide the cylinder liner all the way into the crankcase, and make sure the notch in the top of the liner fits over the pin in the top of the crankcase. The cylinder liner should fit down onto the top of the crankcase with no gaps.

❑ 5. Clean and carefully install the cylinder head onto the crankcase, insuring the gasket is still in place. Make sure that the horizontal slots will face towards the front and rear of the car when the engine has been reinstalled.

Install the four cylinder head bolts and evenly tighten them until they are just snug. Use a small amount of pressure to make sure they are tight. Do not attempt to tighten them to just snug and then a quarter turn, as many larger bolts are done. This will strip the threads in the crankcase. If the crankcase threads become stripped, you will have to purchase a new crankcase.

❑ 6. Install the rear cover in the reverse manner that you removed it. **Make sure the flat spot on the inside of the rear cover is positioned towards the cylinder head.**

*If your engine has a recoil starter, place the starter shaft onto the crankshaft. Make sure the slot in the starter shaft's disc is over the small projection on the crankshaft. Generously lubricate the rear cover with after-run oil and slide it onto the start shaft. The flat spot on the inside of the rear cover must be positioned toward the cylinder head. Reinstall the four rear cover screws. Carefully lubricate the start shaft with after-run oil, then slide the recoil starter onto the start shaft. Make sure it lines up with the rear cover. Install the four screws and tighten until just snug.*

❑ 7. **Congratulations!** You have just completed the installation of your new DuraTrax ABC piston/cylinder assembly.

