



16574220
Edition 1
February 2007

Air Percussive Scaler

K2 Series

Maintenance Information



Save These Instructions

 **Ingersoll Rand**

WARNING

Always wear eye protection when operating or performing maintenance on this tool.

Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool or before performing any maintenance on this tool.

Note: When reading the instructions, refer to exploded diagrams in parts Information Manuals when applicable (see under Related Documentation for form numbers).

Lubrication

Each time a K2LA1, K2LA1SA, K2LA2 or K2LA2SA Series Scaler is disassembled for maintenance and repair or replacement of parts, pour about 3 cc of **Ingersoll Rand** No. 10 Oil in the air inlet and operate the tool for 5 seconds to coat the internal parts with oil.

Weekly, flush the tool and lubricate immediately afterwards as instructed in Placing the Tool in Service. Loss of power and excessive air consumption may be due to wear on the Piston (15) and the bore of the Barrel (13).

Disassembly

General Instructions

1. Do not disassemble the tool any further than necessary to replace or repair damaged parts.
2. When grasping a tool or part in a vise, always use leather-covered or copper-covered vise jaws to protect the surface of the part and help prevent distortion. This is particularly true of threaded members and housings.
3. Do not remove any part which is a press fit in or on a subassembly unless the removal of that part is necessary for repairs or replacement.
4. Do not disassemble the tool unless you have a complete set of new gaskets and O-rings for replacement.

Disassembly of Handle and Throttle Mechanism

1. Remove the Lock Spring (33A) or Flat Spring and Pin (33B) and Retainer (33).
 2. Using a vise with leather-covered or copper-covered jaws, clamp the Scaler by the barrel with the Handle (1) up.
 3. Using a pin punch, drive the Throttle Lever Pin (3) from the Handle. Remove the Throttle Lever (2).
 4. Unscrew the Throttle Valve Cap (7) and remove the Throttle Valve Spring (8), Throttle Valve (4) and Throttle Valve Plunger (9).
 5. Unscrew and remove the Strainer Body (6).
-

Assembly

General Instructions

1. Whenever grasping a tool or part in a vise, always use leather-covered or copper-covered vise jaws. Take extra care with threaded parts and housings.
2. Always clean every part and wipe every part with a thin film of oil before installation.
3. Apply a film of O-ring lubricant to all O-rings before final assembly.

Assembly of the Barrel, Piston and Nozzle

1. Secure the Barrel (13) in a vise with leather-covered or copper-covered jaws with large or threaded end up.
2. Install Piston (15), small end first, in Barrel.
3. Assemble Valve components in the following sequence: Valve Seat (12), Valve (11) and Valve Box (10). Align holes in Valve, Valve Seat and Valve Box and install Dowel Pins (12A).
4. Place assembled Valve components on large or threaded end of Barrel with Valve Seat down.
5. Install Handle (1) and tighten to 180 ft-lb (244 Nm) torque.

This can be determined by checking the Piston diameter at each end and in the center with a micrometer. If the diameter at the center is .003" greater than the diameter at either end, it is proof that the Piston and Barrel are worn. To correct, lap the Barrel and install an oversize Piston as instructed on Page 3 under **Installation of Oversize Piston**.

If examination of the Handle (1) indicates that it is not seating squarely on the Valve Box (10), reface the handle seat. Coat the barrel threads with graphite grease or other rust resisting compound before screwing on the Handle.

Disassembly of the Barrel, Piston and Nozzle

1. Using the No. 345R-54 Exhaust Deflector Pliers, spread apart the Exhaust Deflector (17) and let it slide down the Barrel.
 2. Using a screwdriver and hammer, tap Lock Ring (16) until it disengages from the castellations on the Handle and slides free of the splines on the Barrel.
 3. Unscrew the Handle using a wrench at least 30" (760 mm) long.
 4. Remove Valve Assembly from top of Barrel and disassemble by removing Dowel Pins.
 5. Remove Barrel from vise, remove Deflector and Ring from Barrel and while holding it over a bench, tip large end down to allow Piston (15) to slide out.
 6. To remove Nozzle (14), use the No. K2L-119 Nozzle Ejection Arbor, support the end of the Barrel and press out old Nozzle.
-

Assembly of the Handle and Throttle Mechanism

1. Install the Air Strainer Body (6) in the Handle.
2. Install Throttle Valve Plunger (9), Throttle Valve (4), Throttle Valve Spring (8) and Throttle Valve Cap (7).
3. Align Throttle Lever (2) in Handle and drive in Throttle Lever Pin (3).
4. Reposition the tool in a vise with leather-covered or copper-covered jaws by clamping the Handle across the Throttle Lever Pins with the Barrel up.
5. Slide Locking Ring (16) over splines on Barrel, aligning castellations on Locking Ring with castellations in Handle. Tap Lock Ring lightly in several places to secure in position.
6. Using the No. 345R-54 Exhaust Deflector Pliers, spread apart and install the Exhaust Deflector (17).
7. Install new Nozzle (14) after Tool has been assembled. Using a soft hammer, start new Nozzle, externally beveled end first, squarely into Barrel bore. For Hexagon Nozzles, be sure to position the Nozzle so that the flats are in the desired position relative to the Handle. Support the Handle directly beneath the Barrel and press in the new Nozzle until it seats.
8. Install Retainer (33) on front of Barrel and secure with Lock Spring (33A) or Flat Spring and Pin (33B).

Installation of Oversize Piston

Greater wear occurs near the center of the Barrel bore than at either end. To obtain full benefit from an oversize Piston (15), it is necessary to lap the Barrel (13) until the bore is of uniform size for its entire length.

Select and install the proper size Piston after truing up the Barrel bore. Pistons are furnished .004" or .008" oversize.

Installation of Oversize Nozzle

The Nozzle (14) must be a tight press fit in the front of the Barrel (13). After the Nozzle has been replaced a few times, the Barrel may become enlarged to the extent that the Nozzle is no longer tight. If this condition is noted, an oversize Nozzle should be used. Several oversize Nozzles are available (see part list section) so that the size of the Nozzle can be increased from time to time as necessary. Each oversize Nozzle is plainly etched with the amount of oversize; a standard Nozzle is unmarked. Examine a Nozzle that can be pressed easily from the Barrel. If it is unmarked, use the first oversize; if it is marked .0025", use one .0035", etc. when reassembling the Scaler. See **MAINTENANCE TOOLS** in form 16574303 for Nozzle removal tool.

Troubleshooting Guide

Trouble	Probable Cause	Solution
Sluggish operation	Dirt or oil gum accumulation on internal parts	Pour about 3 cc of a clean, suitable, cleaning solution into the air inlet and operate for 30 seconds. After flushing, pour about 3 cc of oil into the air inlet and operate the tool for 5 seconds to coat the internal parts with oil.
Loss of power	Worn Valve	Replace the Valve.
Loss of efficiency	Worn Piston and/or accessory.	Replace Piston and or accessory.

Related Documentation

For additional information refer to:

Product Safety Information Manual 04581450.

Product Information Manual 16574147.

Parts Information Manual 16574303.

Manuals can be downloaded from www.irtools.com.

www.irttools.com

© 2007 *Ingersoll Rand* Company

