



**16574204**  
Edition 2  
May 2014

# Air Percussive Scaler

172 and 182 Series

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## Maintenance Information



Save These Instructions

**IR** Ingersoll Rand®

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## Product Safety Information

### WARNING

- Failure to observe the following warnings, and to avoid these potentially hazardous situations, could result in death or serious injury.
- Read and understand this and all other supplied manuals before installing, operating, repairing, maintaining, changing accessories on, or working near this product.
- Always wear eye protection when operating or performing maintenance on this tool. The grade of protection required should be assessed for each use and may include impact-resistant glasses with side shields, goggles, or a full face shield over those glasses.
- Always turn off the air supply, bleed the air pressure and disconnect the air supply hose when not in use, before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool or any accessory.

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

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## Lubrication

Each time a 172 or 182 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.

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## Disassembly

### General Instructions

1. Do not disassemble the tool any further than necessary to replace or repair damaged parts.
2. Whenever 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.

### Removal of Grip Handle or Head Block, Valve and Piston

1. Insert a Chisel in the tool. Clamp the shank of the Chisel in a vise with the tool in a vertical position.
2. **For Pistol Grip Handle (25)**, unscrew the Adapter Bolt Nut (38) and pull the Pistol Grip Handle from the Adapter (35).
3. **For all tools**, loosen the Casing Locknut (45).
4. Grasp the flats on the Head Block (1) or (15) or Grip Handle Adapter (35) with a large wrench and unscrew that member from the Casing (52).
5. Withdraw the Valve Cap (46), Valve Spacer (49), Valve (48) and Piston (51).

### Disassembly of Throttle Mechanism

#### For Pistol Grip Throttle

1. Secure the Grip Handle in a vise with leather-covered or copper-covered jaws, drive out Throttle Lever Pin (27) and remove Throttle Lever (26).
2. Unscrew Throttle Valve Cap (32) and remove Throttle Valve Spring (33), Throttle Valve (29) and Throttle Valve Plunger (28).
3. Remove Throttle Valve Face (30) from Throttle Valve.

#### For Lever Throttle

1. Secure the Head Block (1) in a vise with leather-covered or copper-covered jaws, drive out the Throttle Lever Pin (11) and remove Throttle Lever (10).
2. Unscrew the Throttle Valve Cap (2), remove the Throttle Valve Spring (3) and Throttle Valve (5).
3. Remove the Throttle Valve Face (6) from the Throttle Valve.

#### For Push Throttle

1. Secure the Push Throttle Body (18) in a vise with leather-covered or copper-covered jaws and remove the Inlet Bushing (17).
2. Remove the the Throttle Body Retainer (21) and pull the Push Throttle Body with throttle components from the Head Block.
3. Pull the Push Throttle Valve (19) from the Push Throttle Body. Remove the Throttle Valve Pin (22) and the Throttle Valve Face (20) if they need to be replaced.

### Disassembly of the Retaining Mechanism

1. Remove the accessory from the nozzle of the tool.
2. Remove the Retainer Sleeve Lock Ring (57).
3. While holding the Scaler with the nozzle facing away from you, rotate the Retainer Sleeve (54) to the left until the Lock Plunger (55) snaps outward.
4. Fully depress the Lock Plunger and rotate the Retainer Sleeve further to the left as far as it will go and then withdraw the Retainer Sleeve from the end of the Casing (52).

### NOTICE

**When you withdraw the Retainer Sleeve, the Retainer Ball (53), Retainer Sleeve Lock Plunger (55) and Plunger Lock Spring (56) are free to fall from their respective recesses in the Casing. Do not lose these parts.**

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## 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 Retaining Mechanism

1. Look at the bore of the Retainer Sleeve and note that there is a wide relief groove machined at right angles to the slot.

2. While holding the Scaler with the nozzle pointing away from you, insert the Retainer Ball into the large recess in the Casing. Insert the Plunger Lock Spring followed by the Lock Plunger into its recess in the Casing.
3. Hold the Retainer Sleeve so that the internal relief groove is to the right of the slot and, with the nozzle of the tool still pointing away from you, slide the Sleeve onto the end of the Casing so that the Lock Plunger engages the relief groove. When the Sleeve is on the Casing as far as it will go, rotate the Sleeve to the right until the Lock Plunger snaps outward into the slot.

## Assembly of the Throttle Mechanism

### For Pistol Grip Throttle

1. Install the Throttle Lever (26) and secure with Throttle Lever Pin (27).
2. Coat the Throttle Valve Face (30) with O-ring lubricant and install it on the Throttle Valve (29).
3. Install Throttle Valve Plunger (28) and Throttle Valve (29) in Handle.
4. Insert Throttle Valve Spring (33) and secure throttle components with Throttle Valve Cap (32).

### For Lever Throttle

1. Install Throttle Lever (10) on Head Block (1) and secure with Throttle Lever Pin (11).
2. Coat the Throttle Valve Face (6) with O-ring lubricant and install it on the Throttle Valve (5).
3. Install the Throttle Valve in the Head Block, stem first, until stem contacts the Throttle Lever.
4. Insert the Throttle Valve Spring (3) and secure throttle components with the Throttle Valve Cap (2).

### For Push Throttle

1. Coat Throttle Valve Face (20) with O-ring lubricant and install it on the Push Throttle Valve (19). Install Throttle Valve Pin (22) in Push Throttle Valve.
2. Insert the Push Throttle Valve into the Push Throttle Body (18), stem first. Install the Push Throttle Body into the Head Block (15) and secure it with Throttle Body Retainer (21).

3. Secure the Push throttle Body in a vise with leather-covered or copper covered vise jaws and install the Inlet Bushing (17).

### Installation of Grip Handle or Head Block, Valve and Piston

1. Install the Piston (51), Valve Seat (50), Valve (48), Valve Spacer (49), Dowel Pins (47) and Valve Cap (46) in the Casing (52).

#### NOTICE

**To ensure proper alignment between the Valve Seat and Valve Cap, make sure that Dowel Pins are installed correctly.**

2. Insert a Chisel in the front of the Casing (52). Clamp the shank of the Chisel in a vise with the tool in a vertical position.
3. Screw the Casing Locknut (45) onto the Head Block (1 or 15) or Grip Handle Adapter (35) so that the taper faces the threaded end.
4. Screw the Head Block or Grip Handle Adapter into the Casing to 130 ft-lb (176 Nm) torque.
5. Tighten the Casing Locknut against the Casing as tightly as possible.
6. Slide the Pistol Grip Handle (25) onto the Grip Handle Adapter and install the Adapter Bolt Nut (38). Tighten the Adapter Bolt Nut to 25 ft-lb (34.0 Nm) torque.

## 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 16574121.

Parts Information Manual 16574287.

Manuals can be downloaded from [ingersollrandproducts.com](http://ingersollrandproducts.com)

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