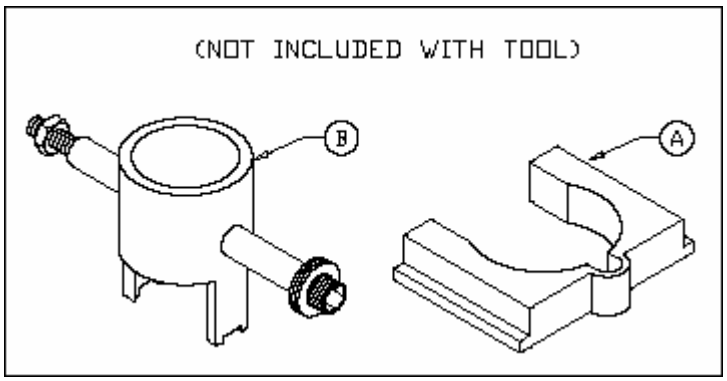
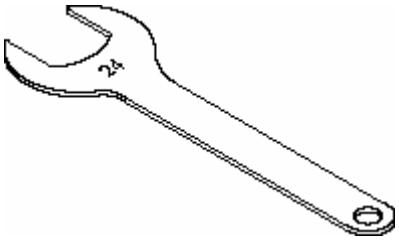
PL1565 & PL1566 Service Tools



Key	Item Number	Description
A	SX115700AV	Tool Holder
B	SX115800AV	Lock Ring Remover & Spindle Puller

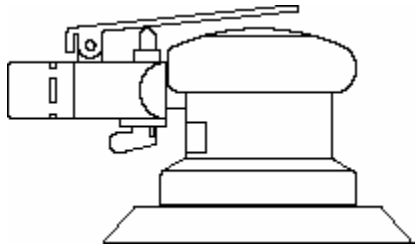


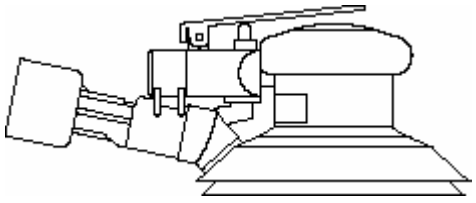
SX115600AV - 24mm Pad Wrench (Included with Sander)

Service Manual
Instructions

PL1565 & PL1566
(inc. SA1567, SA1568, AWP167, TL9565)

Random Orbit Sanders
(Extreme Duty Series)





REPAIR PROCEDURES

Special tools are available, separately, for servicing the random orbit sanders. Tool maintenance and repair should only be performed by trained and competent personnel or authorized service centers. Follow these instructions when repair is necessary (refer to the tool's exploded view and parts list).

DISASSEMBLY INSTRUCTIONS

Motor Disassembly:

1. Lightly secure the tool in a vise using the Service Collar or padded jaws and remove the pad; then remove the shroud.
2. Remove the Lock Ring with the Lock Ring Wrench. The motor assembly can now be lifted out of the Housing.
3. Secure the motor assembly by clamping the Balancer Shaft in a padded jaw vise and remove the Retaining Ring and the O-Ring from the Cylinder.
4. Remove the Rear End Plate, the Cylinder, Vanes, and the Rotor (the rotor must be pressed off of the shaft on older models). Remove the Key, then slide off the Front End plate, the Lock Ring, and O-Ring.
5. If Bearing remains on the Balancer Shaft, use a bearing separator to remove it.

Balancer Shaft Disassembly:

1. Grip the shaft end of the Balancer Shaft in a padded vise. With a thin screwdriver pick out the slotted end of the Retaining Ring and peel out.
2. Screw the threaded end of the Spindle Puller Tool into the Spindle until hand tight. Apply gentle heat from a propane torch or hot air gun to the large end of the Balancer Shaft until it is about 100 C (212 F) to soften the adhesive. Do not overheat. Remove the Spindle/Bearing assembly from the Balancer by giving sharp outward blows to the Spindle by sliding the cylindrical wrench against the flanged end of the threaded shaft. Allow the Spindle and Shaft Balancer to cool.

Housing Disassembly:

1. Place the Speed Control in the midway position and remove the Retaining Ring. The Speed control will now pull straight out. Remove the O-Ring.
2. Unscrew the Inlet Bushing Assembly from the Housing. Remove the Valve Spring, the Valve, Valve Seat, and the Valve Stem.
3. Press out the Pin and remove the Lever.
4. Snap off the Muffler Cap, remove the Exhaust Bushing, the Muffler Inserts, and the Plate. Some designs vary slightly.

ASSEMBLY INSTRUCTIONS

Housing Assembly:

1. Install the Lever with the Pin.
2. Lightly grease the O-Ring and place it on the Speed Control. Install the Valve Stem then insert the Speed Control into the Housing in the midway position and install the Retaining Ring. Caution: Make sure the Retaining Ring is completely snapped into the groove in the Housing.
3. Install the Valve Seat, the Valve, and the Valve Spring. Place a small amount of a non-permanent thread sealant to the threads of the Inlet Bushing and screw into the Housing.
4. Place a clean Muffler Insert into the exhaust port, place the Plate, screw in the Exhaust Bushing, place another Muffler Insert in the Muffler Cap, and snap into place. See Motor Assembly section item 7 if machine is a Self-Generated Vacuum style. Some designs vary slightly.

Balancer Shaft Assembly:

1. Apply a small drop of #271 Loctite or equivalent to the outside diameter of each of the bearings on the Spindle Assembly and spread all around to a thin film. Place the Spindle Assembly into the bore of the Balancer Shaft and secure with the Retaining Ring. Caution: Make sure that the Retaining Ring is completely snapped into the groove of the Balancer Shaft. Allow the adhesive the cure.

Motor Assembly:

1. Lightly grease the O-Ring with a light mineral grease and place in the groove of the Lock Ring, then place on the Balancer Shaft with the O-Ring toward the shaft portion of the Balancer. Slide the Front End Plate into position. Place the Key into the groove on the Balancer Shaft. Place the Rotor on the Balancer Shaft. (Older Powdered Metal Rotors are pressing on. Use a shim to set the gap to .001-.003" between the Rotor and front end plate surface. Composite Plastic versions are a slip fit onto the shaft.)

2. Oil the Vanes with air tool oil and place in the slots of the Rotor in the correct orientation. Some Vane designs were rounded on the inside edge. Place the Cylinder over the Rotor with the short end of the Pin engaging the blind hole in the Front End Plate. Slide the Rear End Plate over the Balancer Shaft and secure with the Retaining Ring Clip.

Caution: The Retaining Ring must be placed so that the middle and two ends of the hoop touch the Bearing first. The raised center portions must be securely "snapped" into the groove of the Balancer Shaft by pushing on the curved portions with a small screwdriver.

3. Lightly grease the O-Ring and place in the air inlet of the Cylinder.

4. Lightly grease or oil the inside diameter of the Housing, line up the Pin with the marking on the Housing and slide the Motor Assembly into the Housing. Make sure the Pin engages the pocket in the Housing.

5. Carefully screw the Lock Ring into the Housing with the Lock Ring Wrench. Hand tighten only (96-108 in. lbs).

6. Attach the appropriate Shroud. Please note the key and slot orientation on vacuum shrouds. Then screw on a Pad.

7. If the machine is a Self-Generated Vacuum style, place a Muffler Insert into the exhaust port, then the Plate. Screw the Retainer with o-rings (lightly greased) and Self-Generated Vacuum fitting into the Housing.

TESTING:

Place 3 drops of air tool oil directly into the air inlet and connect to a 90 psi (6.2 Bar) air supply. The tool should run between 9500 and 10500 RPM when the air pressure is 90 psi at the inlet of the tool while the tool is running at free speed. This free speed will be about 500 to 1000 rpm less when a Vacuum or Hook Face Pad is used because of wind resistance. This will not affect performance when sanding.

Note:

Remember that Sander Balancer Shafts are matched to a pad weight. The Pad Size is marked unto the outside face of the Balancer Face. Use only OEM Pad or equivalent for proper balance and safe operation. The pad weight for this series is as follows:

5in Pads: 100 grams
6in Pads: 130 grams