PHD, Inc. makes no warranty as to the fitness of its products or as to the length of service life after being repaired or parts replaced by anyone other than authorized employees of PHD, Inc. In no event shall PHD, Inc. be liable for loss of profits, indirect, consequential, or incidental damages arising out of the use of PHD products.

FIGURE 1

FIGURE 2

FIGURE 3

For additional technical assistance, call or visit our web site:

P.O. Box 9070, Fort Wayne, IN 46899
www.phdinc.com
1-800-624-8511 • 260-747-6151
DISASSEMBLY PROCEDURE

1) Warning: All air pressure in the unit must be relieved prior to disassembly of gripper.
2) During disassembly, be careful to avoid scratching bearing and sealing areas.
3) Remove bore plug retainer followed by bore plug and bore plug seal.
4) Remove piston assembly fastener.
5) Remove jaw cover assembly fasteners retaining jaw cover.
6) Remove jaw cover.
7) Rotate jaws to the fully open position and lift jaw driver, driver pins, and rod from body of gripper. Unless absolutely necessary, DO NOT disassemble rod from jaw driver. If rod and jaw driver are to be separated, mark both items. Orientation mark is necessary to ensure that the counterbore in the jaw driver is properly seated on the shoulder of the rod thread upon reassembly. Remove driver pins.
8) By inserting a long slender tool through rod seal hole, press out piston and piston seal. Care should be taken not to scratch seating surface of seal groove in piston while removing piston seal.
9) Remove shock pad and optional angle limiting spacer.
10) If jaws must be removed, record depth of jaw pivot pin from face of gripper. Note: Mark orientation of seal. See Figure 2.
11) Align jaw cover on body. Apply removable threadlocker to jaw cover assembly fasteners per Table 1. 
12) Lubricate jaw driver surfaces and holes. Insert drive pins into jaw driver. Note: Use marks made on rod and driver during disassembly to verify proper orientation of driver to rod. Care must be taken not to damage rod during reassembly. Torque components per Table 1.
13) Lubricate bore of gripper.
14) Lubricate and install bore plug seal. See Figure 2 for orientation.
15) Place washer on piston assembly fastener; see Figure 2 for orientation.
16) Lubricate and install bore plug. See Figure 2 for orientation.
17) Assemble, if necessary, rod to driver using permanent threadlocker on male threads of rod. Note: Use marks made on rod and driver during disassembly to verify proper orientation of driver to rod. Care must be taken not to damage rod during reassembly. Torque components per Table 1.
18) Assemble, if necessary, rod to driver using permanent threadlocker on male threads of rod. Note: Use marks made on rod and driver during disassembly to verify proper orientation of driver to rod. Care must be taken not to damage rod during reassembly. Torque components per Table 1.
19) Assemble, if necessary, rod to driver using permanent threadlocker on male threads of rod. Note: Use marks made on rod and driver during disassembly to verify proper orientation of driver to rod. Care must be taken not to damage rod during reassembly. Torque components per Table 1.
20) Assemble, if necessary, rod to driver using permanent threadlocker on male threads of rod. Note: Use marks made on rod and driver during disassembly to verify proper orientation of driver to rod. Care must be taken not to damage rod during reassembly. Torque components per Table 1.

REASSEMBLY PROCEDURE

1) Be careful to avoid damaging seals during reassembly.
2) Lubrication guidelines: (Only use lubricants which are compatible with pneumatic devices.)
   • Rod seal, rod, piston bore, bore plug seal, piston and piston seal: petroleum-based lubricant/grease
   • Jaw slot, jaws, jaw driver, jaw pivot pins and driver pins: petroleum-based high pressure grease
3) Threadlocker guidelines:
   • Piston assembly fastener and jaw cover assembly fasteners: removable threadlocker
   • Jaw driver to rod: permanent threadlocker
4) Lubricate and install rod seal. See Figure 2 for orientation.
5) Lubricate jaw slot surfaces and pivot pin holes. See Figure 1.
6) Insert jaws into jaw slot and align jaw pivot pin holes with body pivot pin holes.
7) Insert jaw pivot pins into body pivot pin holes. Verify that jaw pivot pin holes are aligned with jaw pivot pins. Press jaw pivot pins through jaws until pivot pins are flush with front face of gripper on all gripper sizes with the exception of size 50 which should be pressed .100 [2.5 mm] below the front face of gripper. Note: -CU option pivot pins should be pressed so that the shoulder of jaw pivot pin is flush with front surface of gripper. See Figure 3.
8) Assemble, if necessary, rod to driver using permanent threadlocker on male threads of rod. Note: Use marks made on rod and driver during disassembly to verify proper orientation of driver to rod. Care must be taken not to damage rod during reassembly. Torque components per Table 1.
9) Lubricate jaw driver surfaces and holes. Insert drive pins into jaw driver.
10) Rotate jaws fully open so that drive pin slots in jaws are visible. Assemble rod and driver assembly, rod first, into jaw slot. Adjust jaws to allow driver pins in jaw driver to enter driver pin slots in jaws, see Figure 2. Once assembled, close jaws.
11) Align jaw cover on body. Apply removable threadlocker to jaw cover assembly fasteners and install in body. Torque the jaw cover assembly fasteners per Table 1.
12) Lubricate bore of gripper.
13) Insert angle-limiting spacer when applicable. See Figure 2.
14) Insert shock pad into bore of unit, verify that shock pad surrounds rod. See Figure 2.
15) Replace and lubricate piston seal. Insert piston, with seal, into gripper body. See Figure 2 for orientation.
16) Place washer on piston assembly fastener; see Figure 2 for orientation. 
17) Apply removable threadlocker to piston assembly fastener and assemble through piston into rod. Torque the piston assembly fastener per Table 1.
18) Assemble bore plug seal to bore plug.
19) Lubricate and install bore plug. See Figure 2 for orientation. Verify proper seating of bore plug.
20) Install bore plug retainer into body with sharp edges of retaining ring outward from body. See Figure 2. Verify proper seating of retaining ring.

### TABLE 1

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