


USER INSTRUCTION
FOR
PGS10H SERIES GRIPPERS

Table of Contents

Section

Reference	I
Purpose.....	II
Scope.....	III
Safety.....	IV
Applicable Documents.....	V
Equipment Required	VI
Procedures.....	VII
Cleaning and Maintenance.....	VIII
Quality Assurance Requirements	IX
Specifications	X

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I. **REFERENCE:**

- 001POL Quality Policy

II. **PURPOSE:** This document instructs the operator how to use the PGS10H Grippers

III. **SCOPE:** This work instruction covers Port Size and Operation, Unlocking of Jaws & Setting Open Jaw Angle.

IV. **SAFETY:** Safety glasses or approved eye protection must be worn at all times. Steps involving chemical bonding require the use of proper ventilation and skin protection in accordance with manufacturer's MSDS.

V. **APPLICABLE DOCUMENTS:**

- 14418SP - Sales Page – PGS10HRXXXXXXXXX (Regular Jaw)
- 14419SP - Sales Page – PGS10HFXXXXXXXXX (Flange Jaw)
- 14417SP – Spare Parts List for PGS10H Gripper Series

VI. **EQUIPMENT REQUIRED:**

- Standard Bench Tools

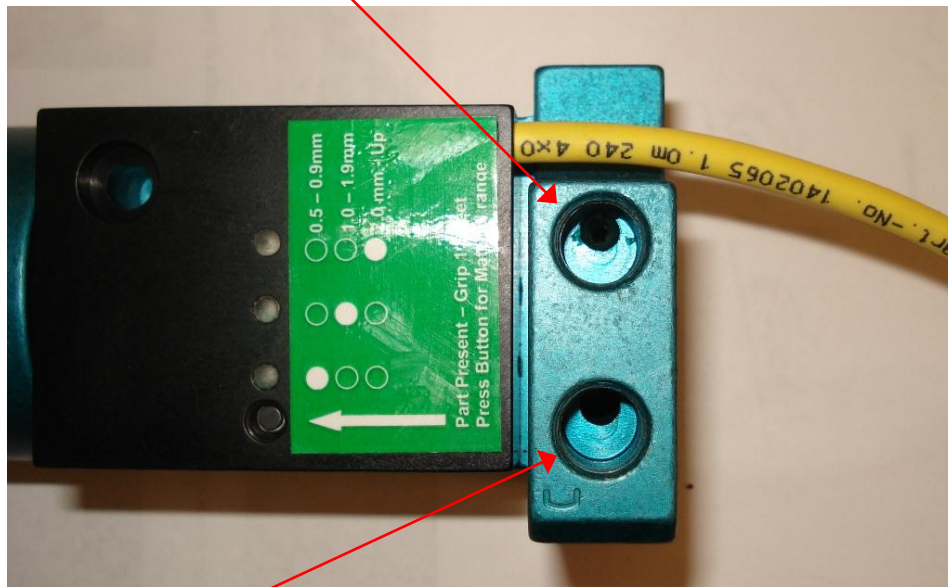
VII. **PROCEDURES:**

A) **Port Size and Operation**

1) **For Top, Right, Bottom and Left Air Port Orientation:**

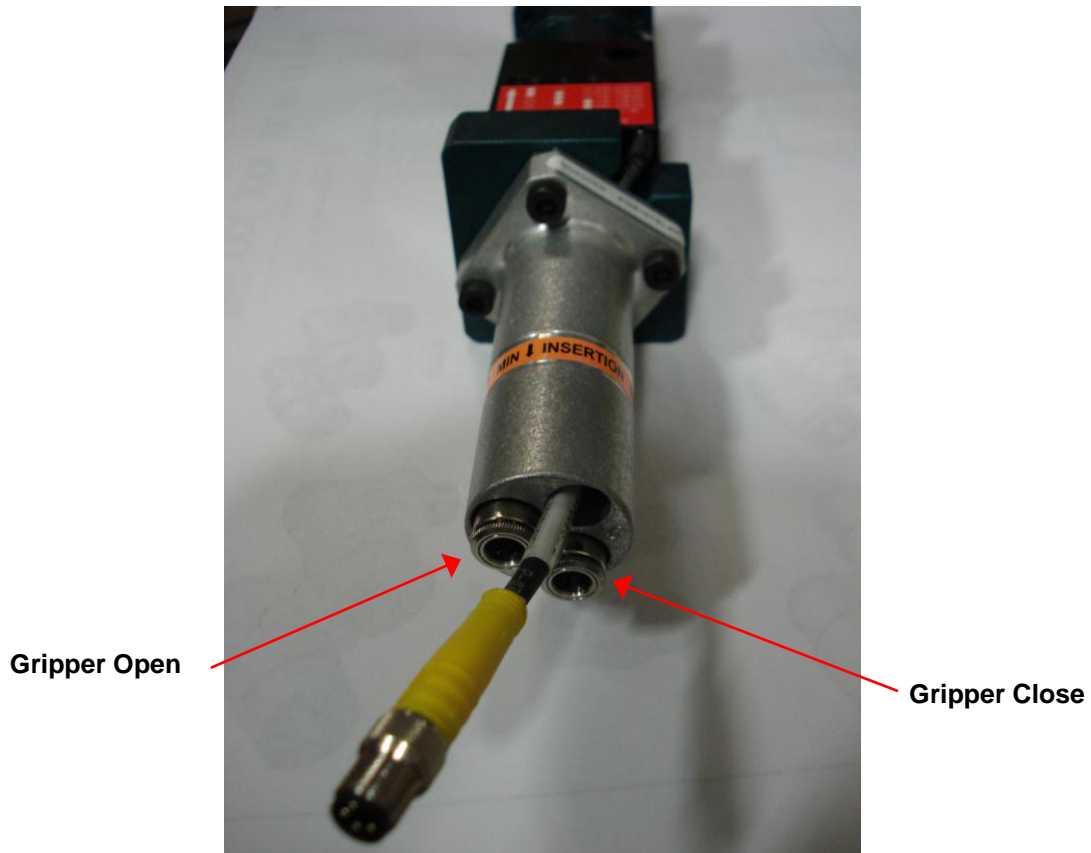
- a) Ports are available in 1/8" NPS or 1/8" Rc.

Gripper Open



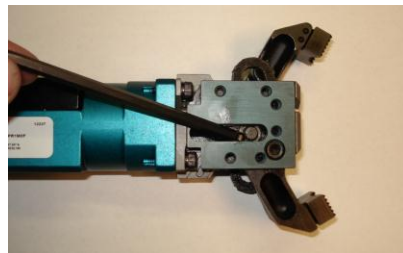
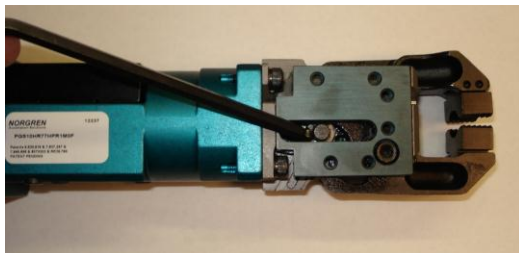
Gripper Close

- 2) **For Rear Air Port Orientation:**
a) Ports are available in 1/8" NPS, with hexagon socket head straight fittings supplied with telescope PGS10TELXXP.



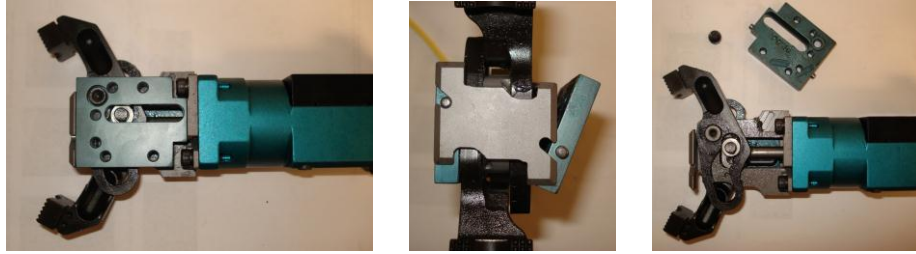
B) Gripper Unlock

- 1) Release jaw by using a hex key or flat screwdriver and pushing on drive pin through slot in side plate

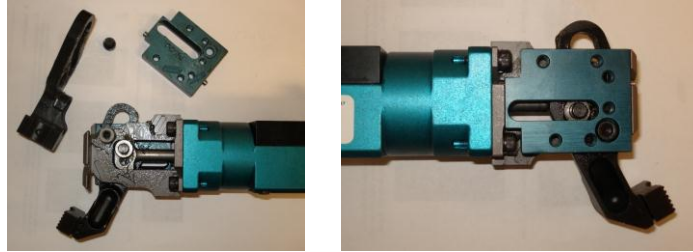


C) Jaw Removal

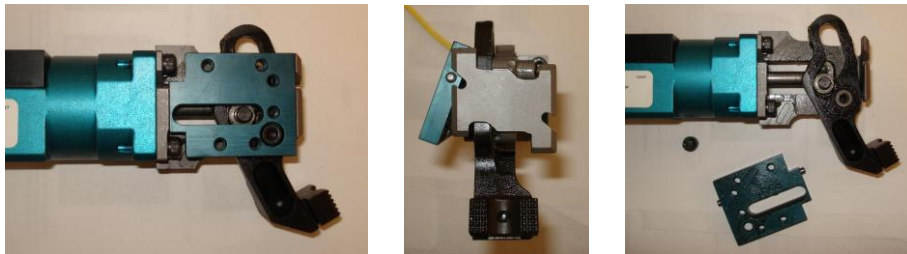
- 1) Unlock gripper as shown in step B and remove pad(s) from existing jaws. Set aside for reassembly.
- 2) **Top jaw** should always be removed first. Remove SHCS and Schnorr washer from side plate. Rotate side plate up to about 45° and remove side plate from gripper. Set SHCS and side plate aside for re-assembly.



- 3) Remove jaw from gripper and flip gripper over to remove other jaw



- 4) Remove SHCS and Schnorr washer from side plate. Rotate side plate up to about 45° angle and remove from gripper. Set SHCS and side plate aside for re-assembly.



- 5) **For lower jaws (11103 and 10151):** Remove bushing from lower jaw using a small flat screwdriver or hex key and set aside for re-assembly. Lower jaw should be rotated completely down before removal. Lift up on front of jaw by pad so there is an angle between jaw and frame. Remove lower jaw from gripper.



6) **For lower jaws (11102):** Remove lower jaw from gripper.

D) Jaw Replacement

1) **For lower jaws (10151, 11102 and 11103):** Apply high-temperature grease to cam and inside of jaw. Angle new jaw so that tail of jaw goes in pocket of frame. Align pivot hole with boss and drive pin with the bottom side of the cam slot. Carefully slide jaw over boss and onto gripper. Replace bushing over pin and into cam. Apply high temperature grease to outside of jaw.

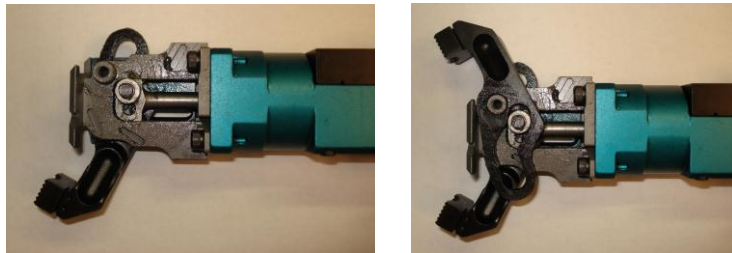


2) Refer to step E for installing a Side Plate.

3) Flip gripper over for top jaw installation



4) **For upper jaws (10150 and 11102):** Apply high-temperature grease to cam and inside of jaw. Replace bushing over drive pin and onto gripper. Align hole in jaw with boss on frame and cam with bushing. Slide jaw over boss and drive pin so that jaw rests on gripper. Apply high-temperature grease to outside of jaw.



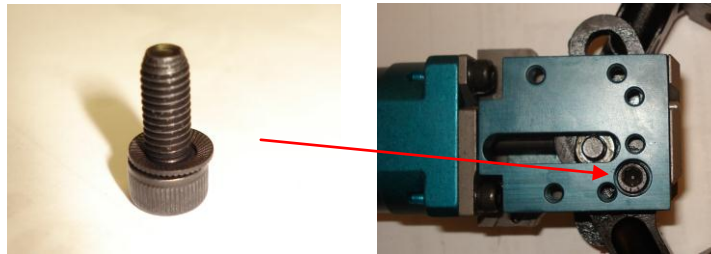
5) Refer to step E for installing a Side Plate.

E) Installing a Side Plate

- 1) With the **Side Plate** at 45°, align pins of side plate with slots of frame. Slide pins into slot. When pins are fully seated, rotate side plate and slide down onto frame.

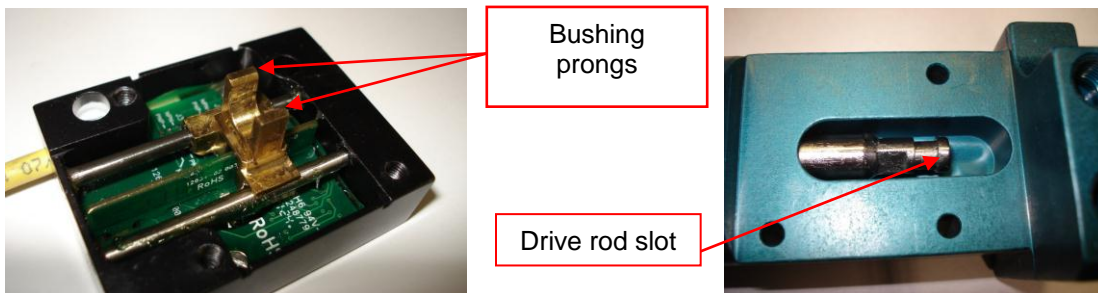


- 2) Add Schnorr washer to M5 X 12mm SHCS. Insert through side plate and into frame. Tighten M5 SHCS to **72in-lb**.

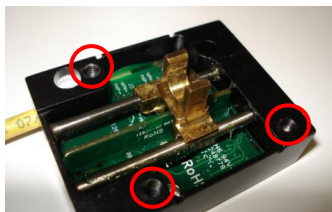


F) Installing an Indirect Sensor

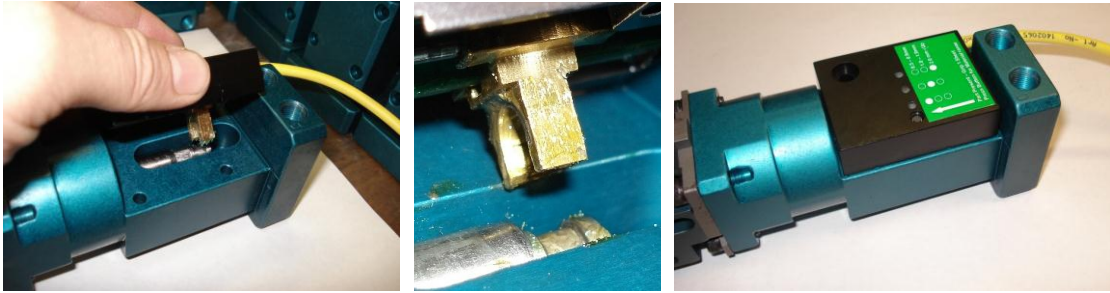
- 1) To install an **Indirect Sensor**, apply a liberal amount of high temperature grease to brass bushing prongs inside sensor. Next, move the brass bushing in the sensor to align with drive rod slot in gripper. This must be done to correctly install sensor. Make sure the sensor is in the orientation where the cable is pointing to the rear of the gripper.



- 2) Apply Loctite 262 or equivalent to the three blind M4 tapped holes.

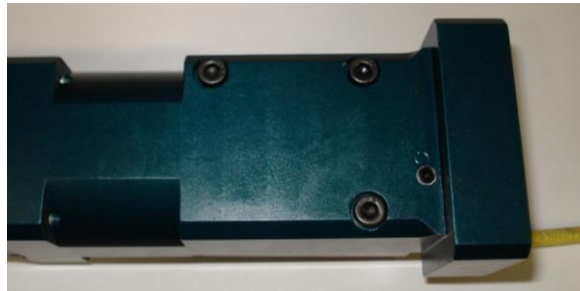


- 3) Rotate sensor down onto frame. As rotation begins **make sure bushing and drive rod slot are still aligned**.



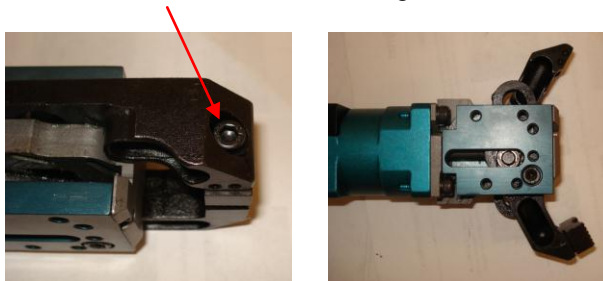
Note: Whenever any part of the gripper is replaced including pads the sensor will need to be recalibrated, see step J.

- 4) To secure sensor to gripper, flip over while holding sensor to ensure that bushing and drive rod are still aligned. Clean all three M4 X 30mm SHCS for sensor and insert through gripper body and into sensor. Tighten M4 SHCS to **50in-lb**.

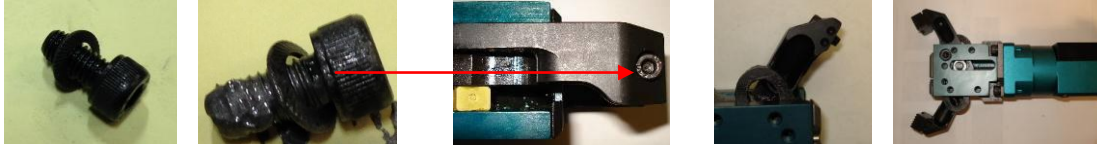


G) Pad Replacement

- 1) Unlock jaws on gripper & open jaws to get access to pads. Side plates **DO NOT** need to be removed. Refer to Gripper Unlock section B.
- 2) Remove M5X10mm SHCS along with the 5mm schnorr washer from jaw.



- 3) Apply Loctite Silver Grade Anti-Seize to M5 X 10mm SHCS. Make sure 5mm schnorr washer is used along with M5 X 10mm SHCS before inserting into one of the jaws. Take replacement pad and insert it into the opposite side of the jaw with SHCS sticking out. Thread SHCS into pad and tighten to **72in-lb**. Repeat step for other jaw.

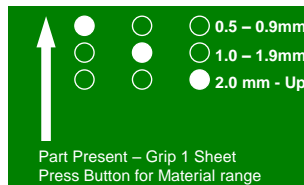


H) Calibrating Indirect Sensor

Sensor must be calibrated whenever any part of the gripper is replaced including pads.

1) Part Present

- a) To program the sensor for a particular material thickness, apply air to the gripper and grip on the material thickness which is to be used for the particular job. With an object such as a small Allen wrench, press the button until the Red LED corresponding to the material range of the job lights as shown on the label.

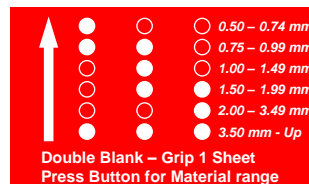


- b) Verify calibration:

- (1) Close the gripper with no material between the pads. The LED should be off.
- (2) Close the gripper on a single blank of material. The Red LED corresponding to your material range should be on.

2) Double Blank

- a) To program the sensor for a particular material thickness, apply air to the gripper and grip on the material thickness which is to be used for the particular job. With an object such as a small Allen wrench, press the button until the Red LED(s) corresponding to the material range of the job lights as shown on the label.



- b) Verify calibration:

- (1) Close the gripper with no material between the pads. The LED(s) should be off.
- (2) Close the gripper on a single blank of material. The Red LED(s) corresponding to you material range should be on.

VIII. CLEANING AND MAINTENANCE:

- A) Remove excess grease from outer surfaces of gripper.
- B) No required maintenance.

IX. QUALITY ASSURANCE REQUIREMENTS:

- A) Verify that jaws shall open freely. Look for any irregular movement, binding, or interference.

X. SPECIFICATIONS:

Gripper	Throat Depth	Flange Height	Working Pressure	Double Sided Grip Force Up To	Actuation Time
PGS10HF	.91 [23.1mm]	1.20 [30.4mm]	60psi (413kPa) Min. – 100psi (689 kPa) Max.	450lbs (200kgf) @ 80psi (551kPa)	.050±.010 sec. close / .080 ± .010 sec. open
PGS10HR	.75 [19mm]	0.50 [12.8mm]	60psi (413kPa) Min. – 100psi (689 kPa) Max.	450lbs (200kgf) @ 80psi (551kPa)	.050±.010 sec. close / .080 ± .010 sec. open

	Regular/Flange Jaw	
Single Blank Thickness	Moveable Jaw Pad Color	Opposing Jaw Pad Color
0.50mm to 2.0mm	Black	Black
2.01mm to 3.5mm	Silver	Silver
3.51mm to 5.0mm	Gold	Silver