

Tidland Force5 Chuck

Installation, Operation and Maintenance



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CAUTION

- Read and understand all safety warnings.
- Wear eye protection when using tools or compressed air.



TIDLAND CUSTOMER SERVICE

1-800-426-1000 www.maxcessintl.com

Visit the Tidland Repair and Return Center online to review our return policies or to submit an electronic Return Material Authorization Request.

www.maxcessintl.com/returns

RECOMMENDED TOOLS

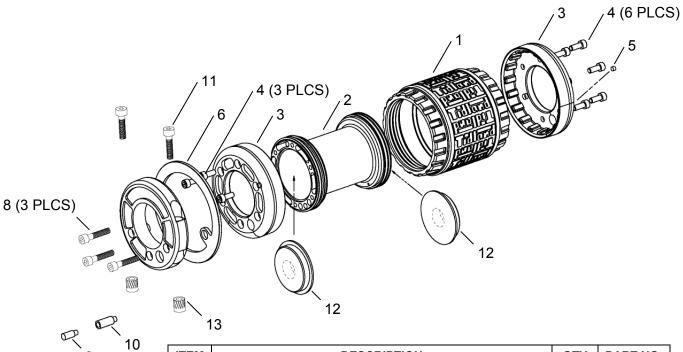
- Clean non-lubricated air supply: 80-120 psi (5.5-8.3 bar) for proper operation.
- Tidland Inflation Tool:

Quick Release w/ gauge (Part No. 128052)
Quick Release w/o gauge (Part No. 128054)
Schrader w/ gauge (Part No. 128053)
Schrader w/o gauge (Part No. 128055)
Tidland Air Release Tool (Part No. 111630)

- LOCTITE[®] 242/243
- Hex drive wrenches: 6mm, 7/16"
- Rubber mallet or pneumatic press (to aid in tire element replacement)
- Slix-it dry silicone spray lubricant

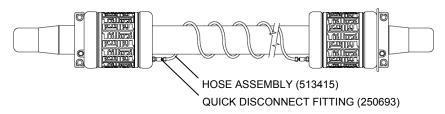
For more accessories to help with your winding processes, visit www.maxcessintl.com.

ASSEMBLY DIAGRAM AND PARTS LIST



ITEM	DESCRIPTION		QTY	PART NO.
1	RUBBER TIRE		1	508080
2	SPOOL		1	508081
3	END CAP		2	509909
4	SOC HD CPSCR M8 X 1.25 X 20 MM (GRADE 5)		9	CALL
5	PIPE PLUG SKT .125" or QUICK DISCONNECT		1	309001 512169
6	CORE STOP (OPTIONAL)		1	508078
7	CLAMP SET	1.625" BORE	1	508083
,		2.625" BORE	1	508084
8	SOC HD CPSCR M8 X 1.25 X 45 MM (GRADE 5)		3	CALL
9	VALVE	QUICK RELEASE 1/8" NPT	1	126440
9		SCHRADER	1	126348
10	VALVE EXTENSION (For use with core stops)	FOR QUICK RELEASE	1	508079
10		FOR SCHRADER	1	525531
11	SOC HD CPSCR M10 X 1.50 X 40 MM (GRADE 12.9)		2	CALL
12	END CAP ADAPTER FOR OPTIONAL BORE SIZES		2	509910
13	THREADED INSERTS		2	509744

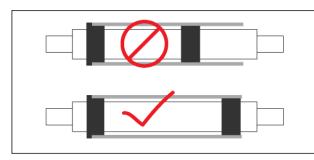
- Multiple chucks can be positioned on a shaft with the use of dual valves, connecting hoses and quick disconnect (QD) fittings.
- If running multiple chucks on a shaft, do not inflate any chuck unless it is covered by a core.
- Call Tidland Customer Service to learn more about running multiple chucks. (1-800-426-1000)



INSTALLATION

NOTICE

- Chucks should fit on the shaft with minimal clearance: 0.006" (0.15 mm) to 0.010" (0.25 mm).
- Do not use expanding shaft elements to grip the chuck I.D.
 Only use chuck clamps to attach chuck to shaft.



- When using chucks on a shaft, always locate chucks as shown.
- Improper placement of chucks will reduce life cycle of the shaft.
- Questions about installation, application or load calculations?
 Call Tidland Customer Service.
 1-800-426-1000

- 1. Position each chuck on the shaft.
- 2. Tighten clamp bolts alternately to 36 ft lbs (49 Nm).
- 3. Position the core or roll over the chuck(s).

OPERATION



Only inflate chuck **inside** of core! Failure to do so may cause the element to rupture and may result in personal injury.



- Minimum chuck air pressure is 80 psi (5.5 bar).
 Maximum chuck air pressure is 100 psi (6.9 bar).
- Insufficient air pressure or under-inflation will decrease the chuck torque capacity and shorten the life of the rubber element.

To Inflate the Chuck

- 1. Use the Tidland air inflation tool: push the air nozzle firmly into the air valve socket.
- 2. Hold the air inflation tool in place until the air supply gauge indicator registers a minimum of 80 psi (5.5 bar).

To Deflate the Chuck

- 1. Stop the winding operation.
- 2. Deflate the chuck:
 - a. Schrader Valve
 - Use only the Tidland air release tool to deflate the chuck
 - Insert the Tidland air release tool into the air valve socket and depress.
 - Hold until the chucks are completely deflated to the minimum diameter.
 - b. Quick Release Valve
 - Depress and hold the air release button until the chucks are completely deflated to the minimum diameter.

MAINTENANCE



Wear eye protection when using tools or compressed air.

To Replace the Air Valve

- 1. Using a socket wrench, unscrew and remove the worn air valve. (7/16" hex)
- Clean the new air valve threads and the spool (or valve adapter) threads to remove contaminants.
- 3. Apply thread sealant (according to manufacturers instructions) to threads of new valve (unless the sealant is pre-applied) and reinstall.
 - NOTE: Valves with pre-applied thread sealant are good for multiple uses. Always inspect the valve threads for sufficient sealant; do not reuse more than six times.
- 4. Install the air valve in the spool. Torque to 12 ft·lbs (16.3 Nm).
- 5. Set the spool aside for approximately 15 minutes to ensure that the air valve is sealed.

To Test for Leaks

- 1. Place chuck inside core or roll.
- 2. Inflate chuck to 80 psi (5.5 bar) minimum.
- 3. Spray valve area with soapy water and watch for bubbles that may indicate a leak.



Only inflate chuck **inside** of core! Failure to do so may cause the element to rupture and may result in personal injury.

To Replace the Rubber Tire Element

- 1. Remove chuck from machine.
- 2. Remove the end caps and clamp from the chuck.

Options for Removing the Tire Element

- Use a pneumatic press ram, or
- Use a rubber mallet around the edges to drive it off the spool, or
- Use a sharp blade to cut the tire element off. Be careful not to damage the spool.

Install New Tire Element

With a Pneumatic Press Ram

- 1. Insert spool into tire as far as possible.
- 2. Place solid insert into spool end.
- 3. Align chuck under press ram and activate the press, forcing the spool into the tire.
- 4. Add a spacer to the solid insert and use the press ram again in order to seat the spool fully into the tire.

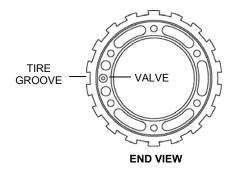
With a Rubber Mallet

- 1. Spray *Slix-it* dry silicone lubricant inside the tire.
- 2. Insert the spool into the tire and align the valve with a groove on the outside of the tire.
- 3. Use a rubber mallet to pound the tire onto the spool. Ensure that the tire and spool are completely engaged at the edges.

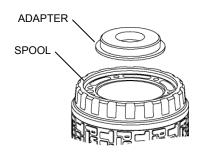
MAINTENANCE

Install End Caps

1. Make sure that the valve on the spool is aligned opposite any groove on the outside of the tire. This may require turning the tire on the spool.

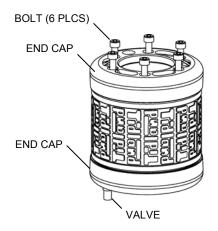


- 2. Install adapter in spool end, if required.
- 3. Spray inside of end caps with Slix-it.
- 4. Align the grooves on the end cap and the tire. With the rubber mallet, pound the end caps onto the spool and tire.



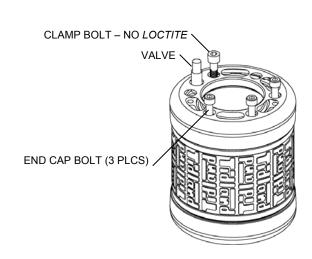
Install Bolts - Non-valve End

- 1. Apply a small amount of *LOCTITE 242* to the threads of the bolts and install them in the end cap.
- 2. Alternately tighten the bolts to 18ft·lbs. This helps the end cap to seat straight all around the diameter of the chuck.



Install Bolts - Valve End

- Begin with only three bolts. Apply a small amount of LOCTITE 242 to the threads and only start them in the end cap.
- 2. Install another bolt without *LOCTITE* in the position shown. This bolt will be removed before installing the clamp.
- 3. Alternately tighten the bolts to 18ft·lbs. This helps the cap to seat straight all around the diameter of the chuck.
- 4. When the end cap is seated, remove the "clamp bolt."

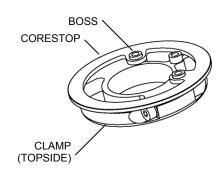


MAINTENANCE

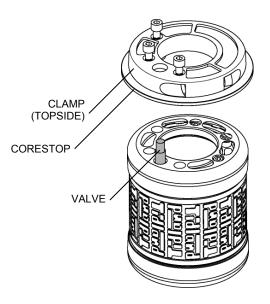
Install the Clamp

Corestop (optional)

 Align the corestop holes with the bosses on the underside of clamp and press firmly to engage. (Skip to Step 2 if not using corestop.)



- 2. Reinstall the clamp on the chuck, aligning it with the valve.
- 3. Apply small amount of *LOCTITE 242* to the bolt threads and torque them to 18ft·lbs.



TROUBLESHOOTING

Problem	Possible Cause	Recommended Solution
Rubber element wearing on edges	This is a normal wear pattern, but is accelerated by use of oversize cores, and/or running chucks underinflated.	Use correct core size or call Tidland for more information about longer chucks.
		Ensure chucks are inflated, in cores, to 80-100 psi.
Clamp cracking or breaking	Chuck bore does not match shaft OD.	Chuck should fit shaft within .008"015" clearance range.
	One clamp bolt was tightened down before the other.	When installing clamp, tighten bolts alternately to 80 ft·lbs (108.5 Nm).
Leaks	Leaking valve or damaged tire	Inflate tire, without core, to 25 psi maximum and spray with soapy water to determine location of leak.
		Replace tire or valve as needed.
	A	Tires can rupture when inflated outside the core. Do not exceed the maximum recommended air pressure when testing for leaks.

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