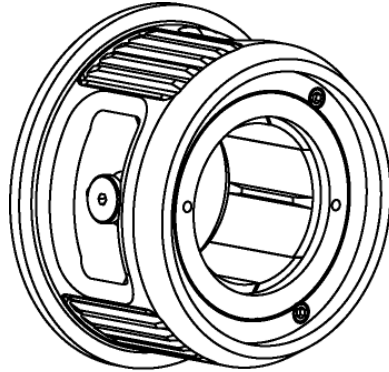


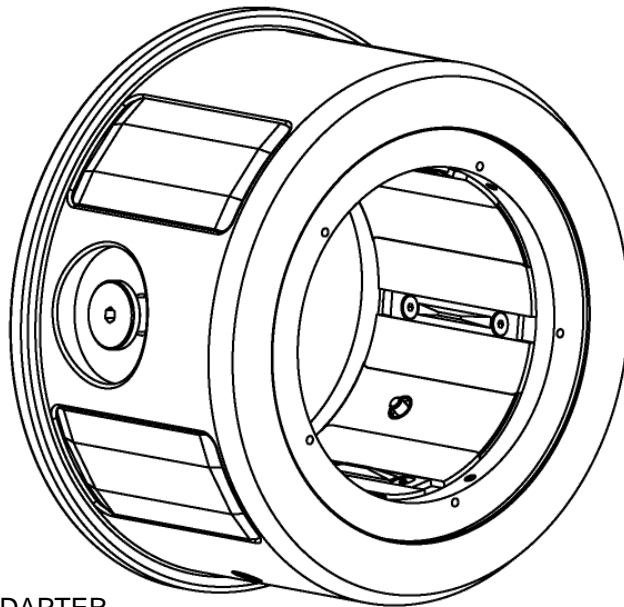
# Raptor Series Adapters

Installation, Operation and Maintenance

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3"-6" ADAPTER



6"-10" ADAPTER

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For Air Powered Lug and Torque Chucks

Adapter Sizes	3" - 5"	6" - 8"
	3" - 6"	6" - 10"
	3" - 6.75"	6" - 12"
	3" - 150mm	
	3" - 7.415"	
	3" - 8"	

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## CAUTION

### WARNING

- Chucks with adapters installed can weigh up to 150 lbs.
- Use a hoist to install or remove chuck assembly.



Wear eye protection when using tools or compressed air.

## TIDLAND CUSTOMER SERVICE

1-800-426-1000

[www.tidland.com](http://www.tidland.com)

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

[www.tidland.com/returns](http://www.tidland.com/returns)

## RECOMMENDED TOOLS

- Hex drive wrenches: 1/8", 3/16"
- *LOCTITE*<sup>®</sup> 242
- *Dow Corning Molykote*<sup>®</sup> 557 *Silicone Dry Film Lubricant* (Do not use grease.)

For more accessories to help with your winding processes, visit [www.tidland.com](http://www.tidland.com).

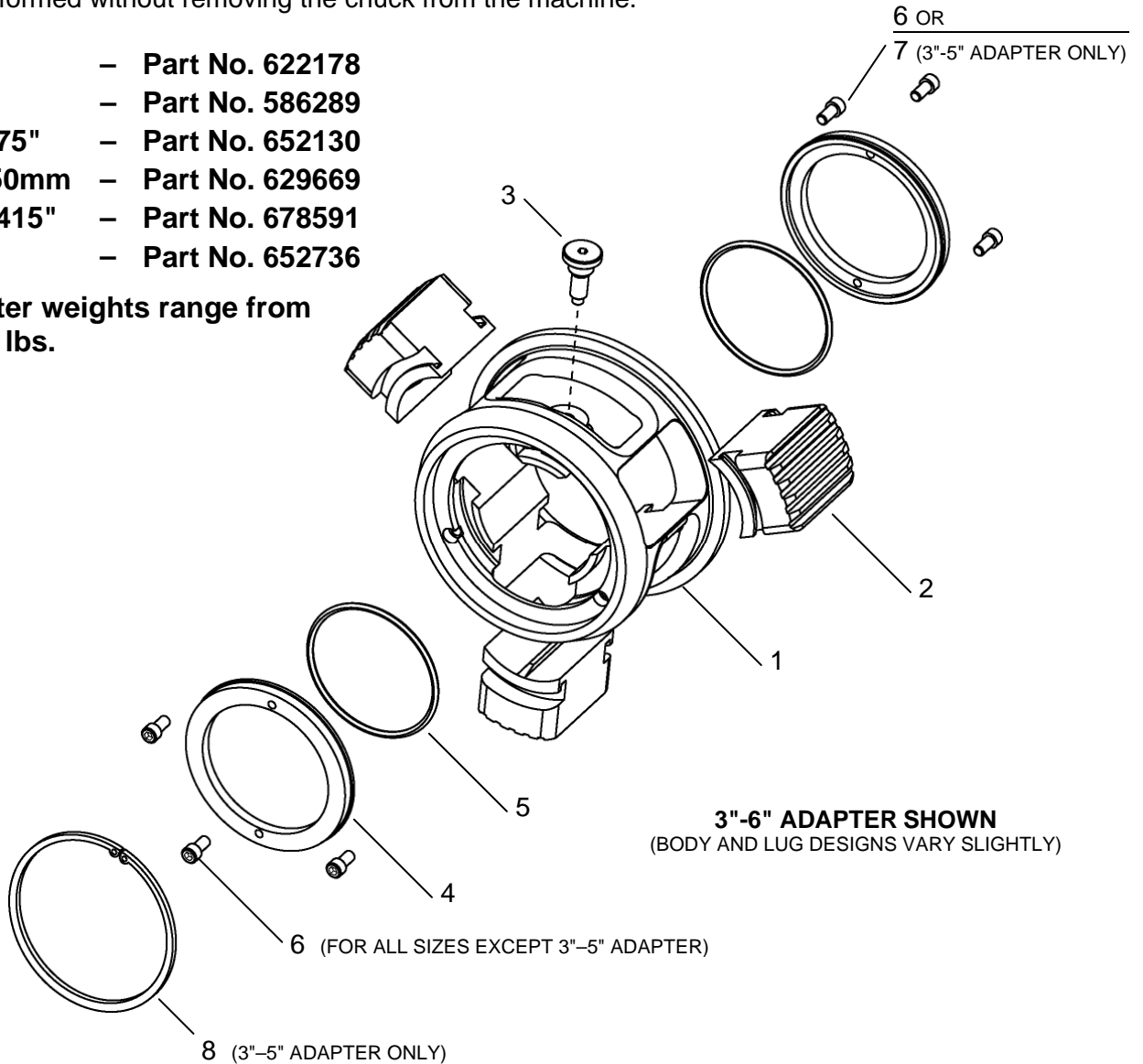
# 3" ADAPTERS

## Assembly Diagram and Parts List

These adapters are installed only onto the Raptor Series 3" Torque or 3" Air Powered Lug Chucks to run core size applications as listed below (+.010"/+.020"). Adapter installation can be performed without removing the chuck from the machine.

- 3"- 5"**        – **Part No. 622178**
- 3"- 6"**        – **Part No. 586289**
- 3"- 6.75"**   – **Part No. 652130**
- 3"- 150mm**   – **Part No. 629669**
- 3"- 7.415"**   – **Part No. 678591**
- 3"- 8"**         – **Part No. 652736**

**Adapter weights range from 13-32 lbs.**



**3"-6" ADAPTER SHOWN**  
(BODY AND LUG DESIGNS VARY SLIGHTLY)

ITEM	DESCRIPTION	QTY	5" PART NO.	6" PART NO.	6.75" PART NO.	150mm PART NO.	7.415" PART NO.	8" PART NO.
1	ADAPTER BODY	1	622173	586251	652101	629670	652723	652723
2	LUG	3	622174	586367	652127	629671	652572	683169
3	LOCKING PIN or	1	n/a	589333	589333	589333	652703	652703
	SOC HD HALF DOG PT .375"-16UNC X 1.00" LG (GRADE 8)	1	622176	n/a	n/a	n/a	n/a	n/a
4	LUG RETAINER RING	2	561881	561881	561881	561881	561881	561881
5	O-RING (PARKER 2-235)	2	597579	597579	597579	597579	597579	597579
6	SOC HD CPSCR 1/4-20NC X .500" LG (GRADE 8)	6	n/a	624100	624100	624100	624100	624100
7	BUTTON HD SOC #10-32UNF X .375" LG (GRADE 8)	3	622175	n/a	n/a	n/a	n/a	n/a
8	SNAP RING	1	622177	n/a	n/a	n/a	n/a	n/a

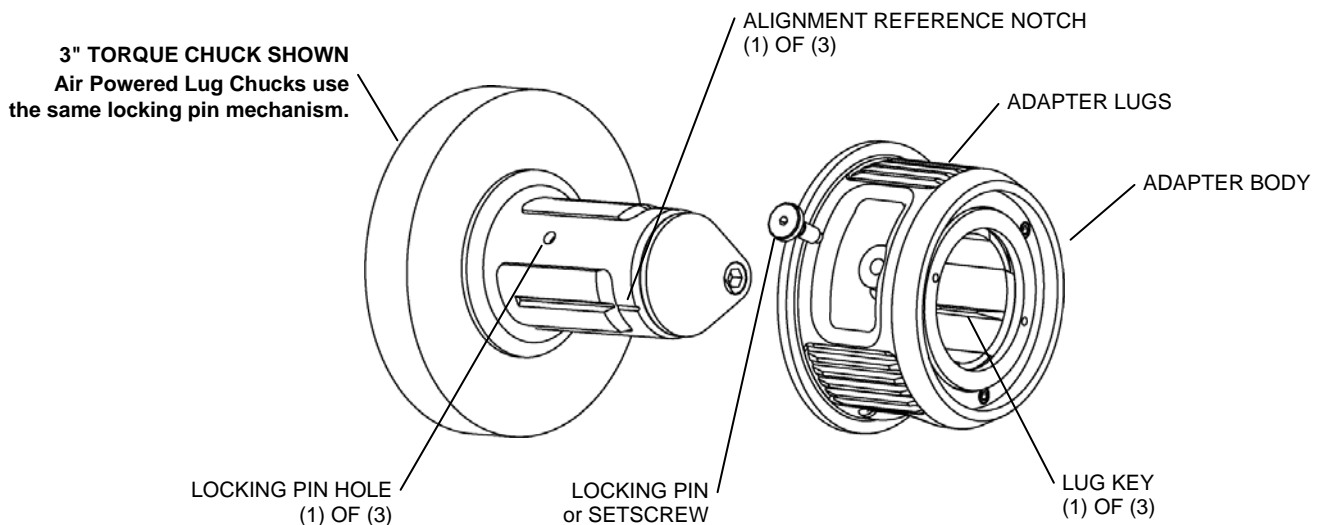
# 3" ADAPTERS

## Installation

- The locking pin keeps the adapter from sliding off the chuck: It does not transfer torque. Torque is transferred from chuck to adapter through lug keys on underside of adapter lugs.
- **The 3"-5" adapter uses a setscrew instead of a locking pin.**

1. Ensure that chuck lugs are completely retracted.
2. Align center of any adapter lug with center slot on any chuck lug.
3. Slide the adapter onto the chuck body, using the alignment reference notch on the chuck body as a guide. There is a corresponding "key" (ridge) on the underside of each adapter lug that slides into the slot on top of each chuck body lug.
4. When the adapter contacts the back flange of the torque chuck, hand-tighten the locking pin until the adapter is secure. Adapter is ready for operation.

**Note:** If the pin does not seat in one of the three locking pin holes, ensure that the adapter lug keys are properly aligned on the chuck lugs.



## Operation

When properly installed, the Raptor Series Adapter will function like the chuck. Please refer to your Tidland Operation and Maintenance Manual for Raptor Series Chuck operation instructions.

- P/N 660289 Tidland Raptor Series Torque Chuck Manual (3", 4" and 6" chucks)
- P/N 660290 Tidland Raptor Series Air Powered Lug Chuck Manual (3" and 6" chucks)

# 3" ADAPTERS

## Maintenance

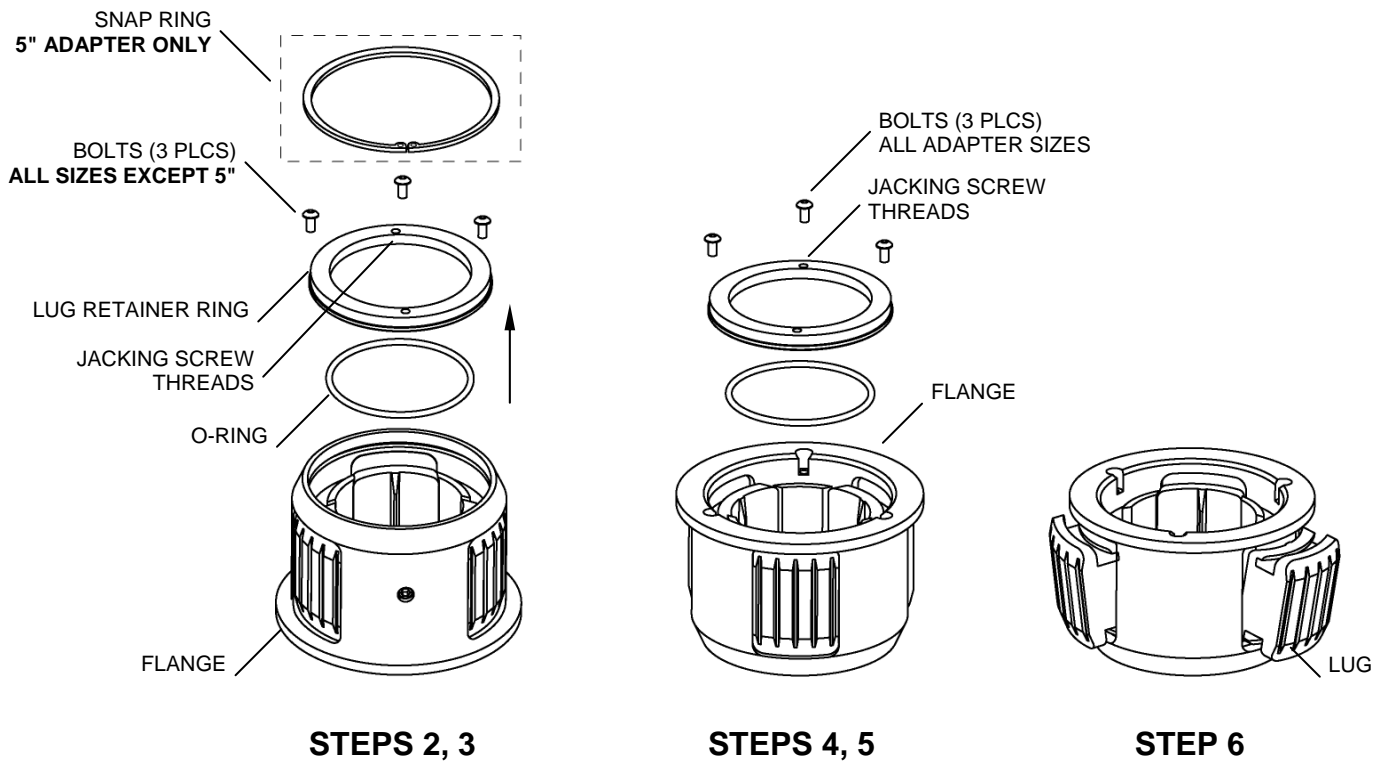
The adapter must be removed from the chuck for complete maintenance or disassembly to replace worn lugs or broken o-rings. Adapter configurations vary; yours may or may not have all features illustrated here, but assembly procedures are similar.

### To Remove Adapter from Chuck

1. Retract lugs completely. If lugs fail to retract, refer to Troubleshooting, page 16.
2. Loosen the locking pin (or setscrew). It is not necessary to remove it.
3. Slide adapter off chuck.

### To Disassemble Adapter

1. Position adapter with flange against the workbench surface.
2. **5" Adapter:** Remove the snap ring that holds the lug retainer ring in place.  
**All other adapter sizes:** Remove the bolts that hold the lug retainer ring in place.
3. Remove the retainer ring and o-ring from the lugs.
4. **For all four adapter sizes:** Turn adapter over and remove the bolts holding the other retainer ring in place.
5. Remove the retainer ring and o-ring from the lugs. Lugs can now be removed.
6. Remove lugs from slots and inspect for wear.
7. Clean all lug surfaces, lug slots, o-rings, and inside of adapter body. Inspect o-ring for cracks and replace if necessary.



# 3" ADAPTERS

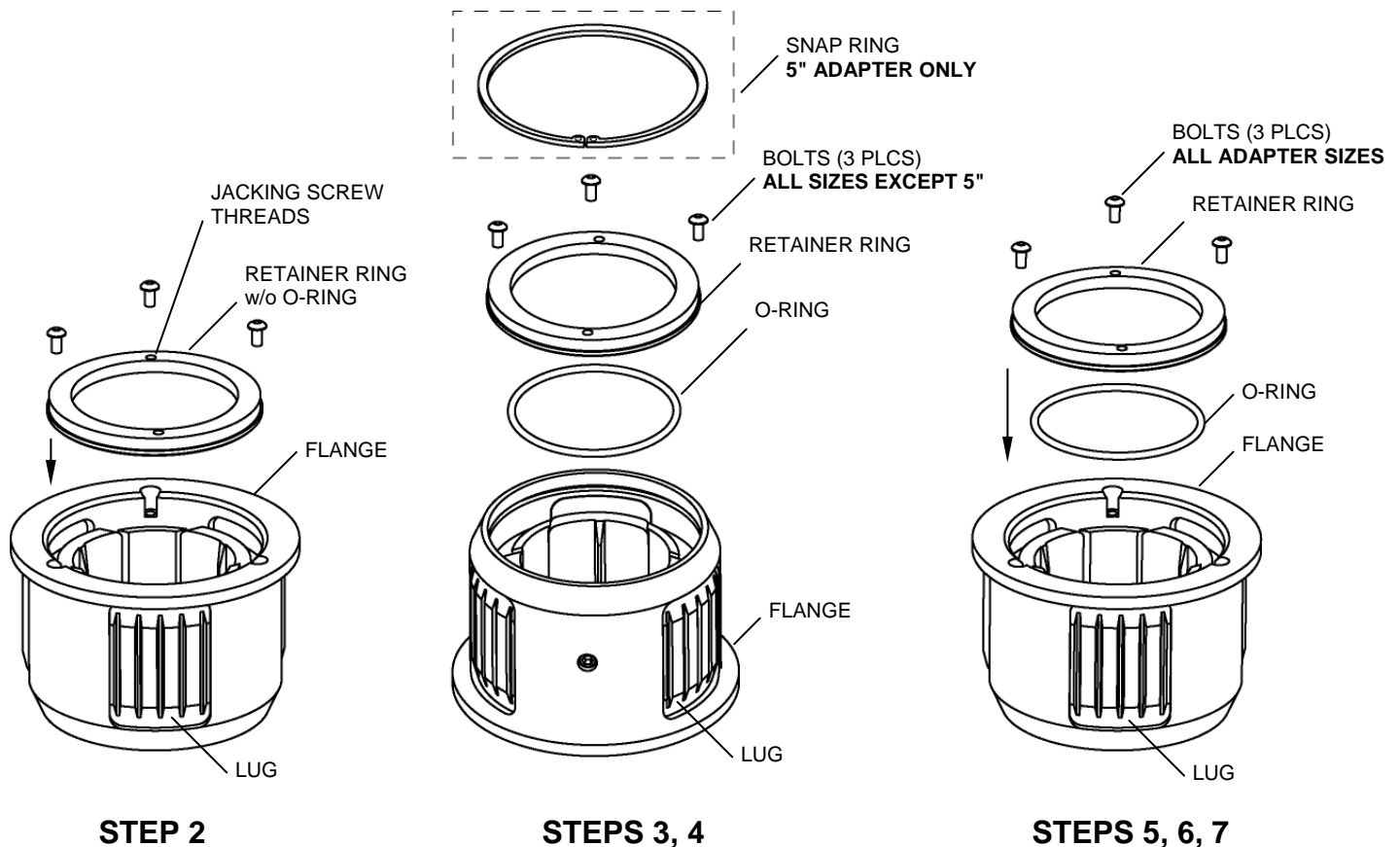
## To Reassemble Adapter

**Recommended:** Clean dust and debris from chuck before reinstalling adapter. See Operation and Maintenance manual for Tidland Raptor Series Torque Chucks.

- P/N 660289 Tidland Raptor Series Torque Chuck Manual (3", 4" and 6" chucks)
- P/N 660290 Tidland Raptor Series Air Powered Lug Chuck Manual (3" and 6" chucks)

**Recommended:** Lubricate lug slots and bottom and side surfaces of lugs before reassembly. Use silicone dry film lubricant. **The use of grease products will result in contamination and allow dirt and dust to accumulate on chuck and adapter parts.**

1. Place the adapter body on the work surface with the flange end up.
2. Insert lugs in lug slots and, without the o-ring, temporarily install one lug retainer ring. **Do not use LOCTITE** for this step.  
**Note:** Step 2 helps hold the lugs in place while installing the first o-ring in Step 3.
3. Turn the adapter over (flange down) and install the o-ring and retainer ring on the lugs.
4. **5" Adapter:** Install snap ring to secure lug retainer ring.  
**All other adapter sizes:** Apply **LOCTITE 242** to bolt threads and reinstall bolts using 9 ft.-lbs torque (12.2 Nm).
5. Turn the adapter over again; remove the temporarily installed lug retainer ring.
6. Install remaining o-ring and replace the lug retainer ring.
7. **All Adapter sizes:** Apply **LOCTITE 242** to bolt threads and reinstall remaining bolts using 9 ft.-lbs torque (12.2 Nm).
8. Reinstall adapter on chuck, using instructions on page 5.



# 6" ADAPTERS FOR TORQUE CHUCKS

## Assembly Diagram and Parts List

These adapters are installed only onto the Tidland 6" Torque Chuck to run core size applications as listed below (+.010"/+.020"). Adapter installation can be performed without removing the chuck from the machine.

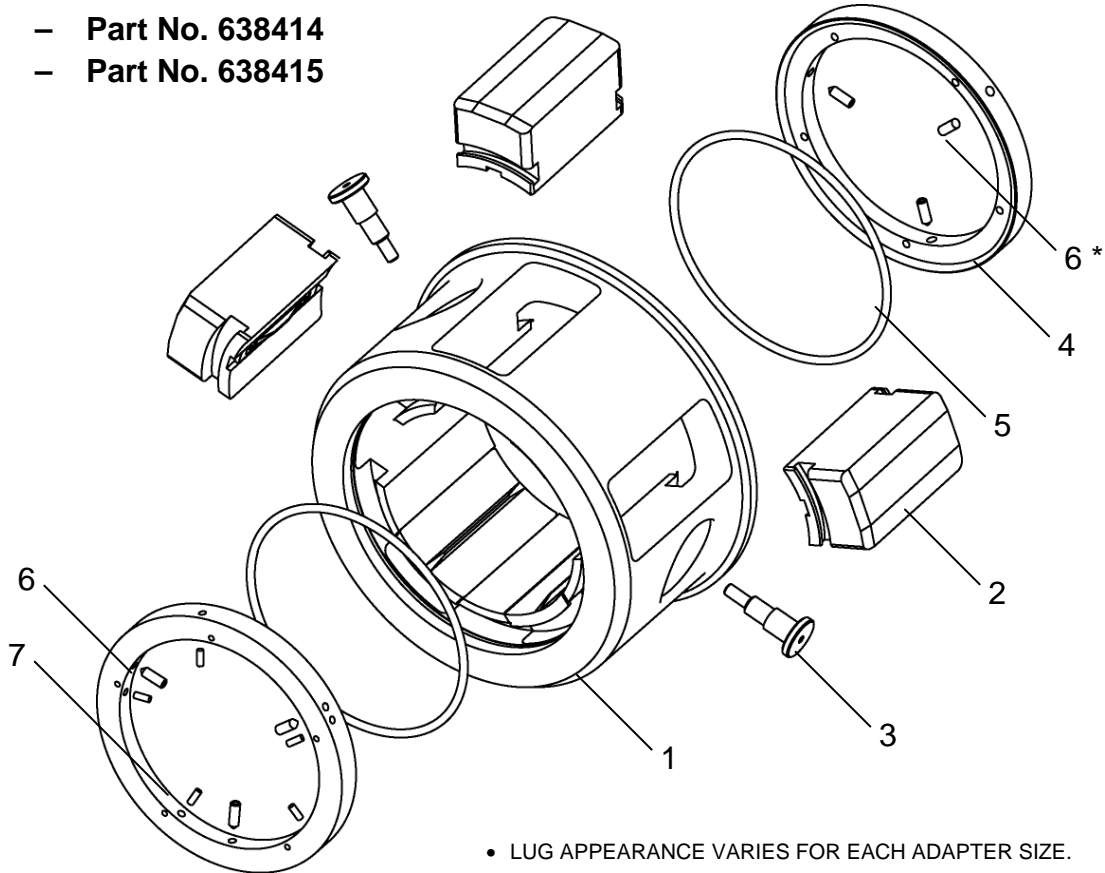
### WARNING

Adapter weights range from 18-74 lbs. Use safe handling procedures. The adapter is equipped with a 3/8"-16 threaded insert to accommodate a screw eye for lifting.

6" - 8" – Part No. 638413

6" - 10" – Part No. 638414

6" - 12" – Part No. 638415



- LUG APPEARANCE VARIES FOR EACH ADAPTER SIZE.
- THE 10" ADAPTER IS SHOWN HERE.

ITEM	DESCRIPTION	QTY	8" PART NO.	10" PART NO.	12" PART NO.
1	ADAPTER BODY	1	647037	643775	647034
2	LUG ASSEMBLY	5	647834	645140	648389
3	LOCKING PIN	2	n/a	643777	647032
	STSCR 3/8-16UNC x 1" LG HALF DOG PT (GRADE 8)	2	622176	n/a	n/a
4	LUG RETAINER RING	2	643776	643776	643776
5	O-RING (PARKER 2-361)	2	659906	659906	659906
6	STSCR 1/4UNC x .500" LG CONE PT	6	n/a	649727	649727
	* STSCR 1/4UNC x .500" LG CONE PT	3	649727	n/a	n/a
7	ROLL PIN 3/16" x 13/16" LG TOP RING OF 8" ADAPTER (NO SETSCREWS)	5	657956	n/a	n/a



# 6" ADAPTERS FOR TORQUE CHUCKS

## Installation

- The locking pins keep the adapter from sliding off the chuck – they do not transfer torque. Torque is transferred from chuck to adapter through lug keys on underside of adapter lugs.
- **The 6"-8" adapter uses two setscrews instead of locking pins.**

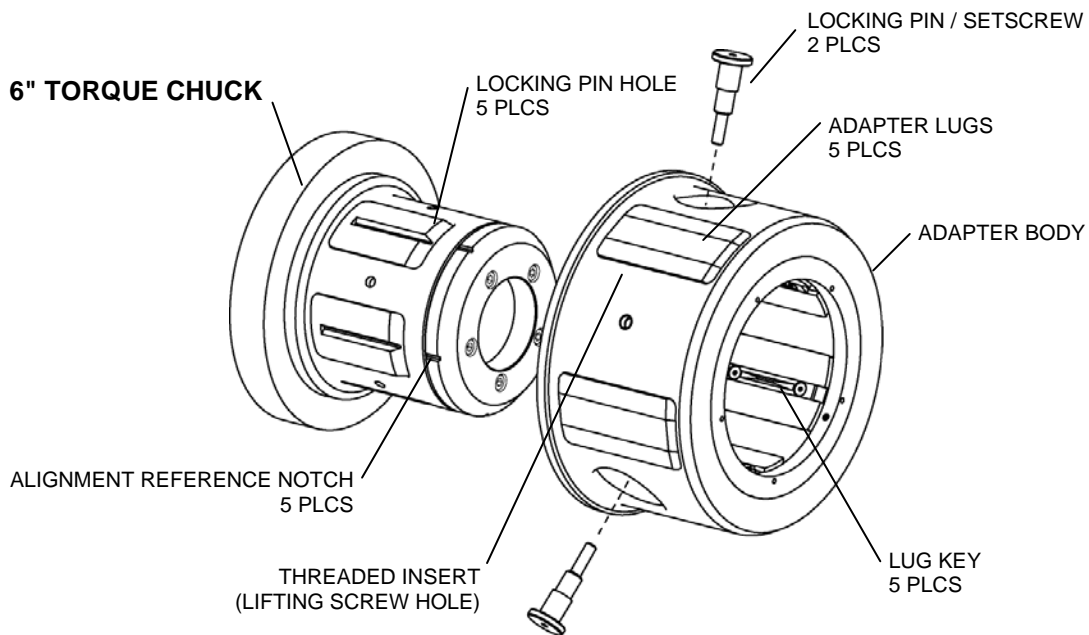
## WARNING

Adapter weights range from 18-74 lbs. Use safe handling procedures. The adapter is equipped with a 3/8"-16 threaded insert to accommodate a screw eye for lifting.

1. Ensure that chuck lugs are completely retracted.
2. Align center of any adapter lug with the center slot on any chuck lug.
3. Slide the adapter onto the chuck body, using the alignment reference notch on the chuck body as a guide. There is a corresponding "key" (ridge) on the underside of each adapter lug that slides into the slot on top of each chuck body lug.
4. When the adapter contacts the back flange of the chuck, hand-tighten the two locking pins until the adapter is secure.

**Note:** The 6"-8" adapter uses two setscrews instead of locking pins. (3/16 hex drive)  
If the locking pins/setscrews do not seat in locking pin holes, ensure that the adapter lug keys are properly aligned on the chuck lugs.

**Do not install the locking pin/setscrews in the threaded insert.  
It is not threaded all the way through the adapter body.**



## Operation

When properly installed, the Raptor Series Adapter will function like the chuck. Please refer to your Tidland Operation and Maintenance Manual for Raptor Series Chuck operation instructions.

- P/N 660289 – Tidland Raptor Series Torque Chuck Manual (3", 4" and 6" chucks)

# 6" ADAPTERS FOR TORQUE CHUCKS

## Maintenance

The Adapter must be removed from the Torque Chuck for maintenance or for disassembly to replace worn lugs or broken o-rings.

## WARNING

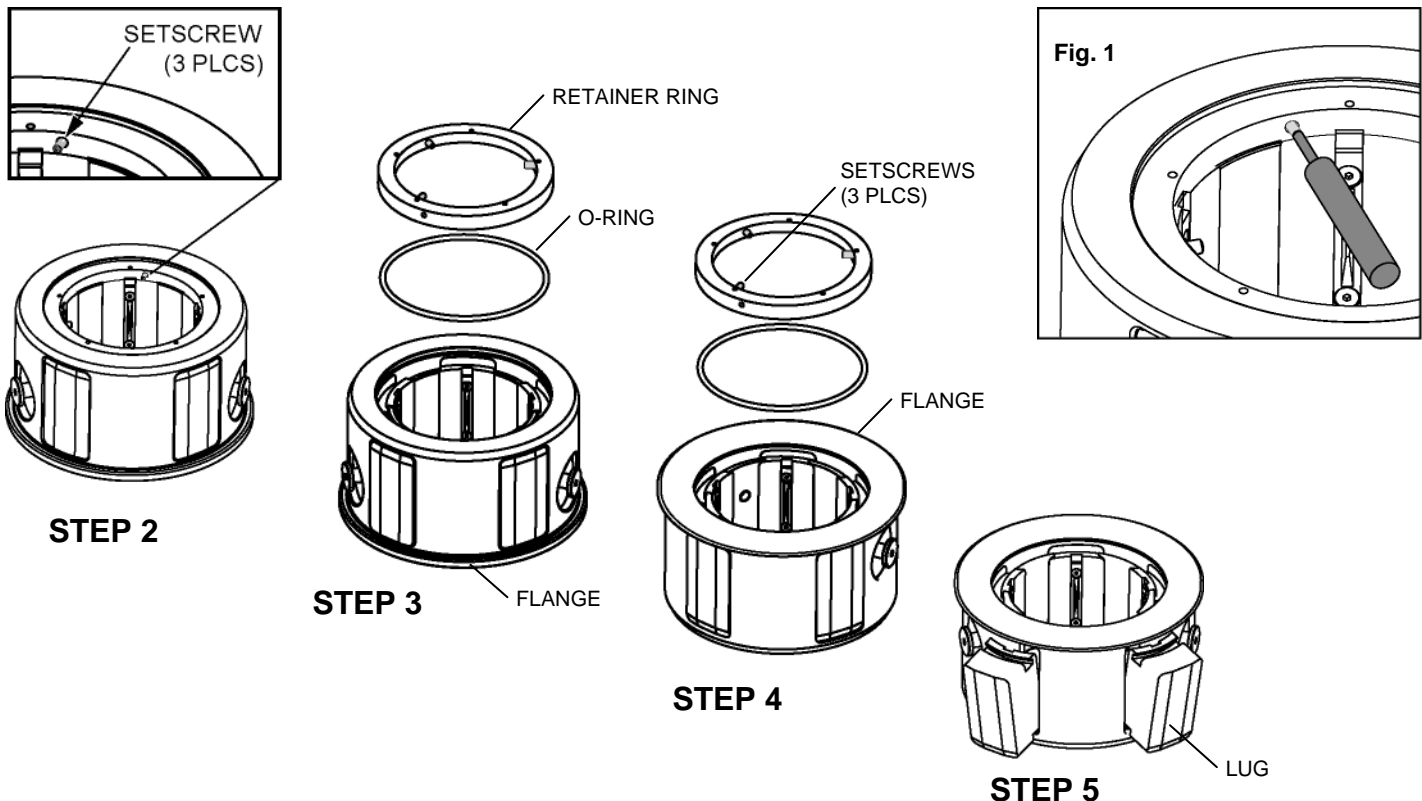
Adapter weights range from 18-74 lbs. Use safe handling procedures. The adapter is equipped with a 3/8"-16 threaded insert to accommodate a screw eye for lifting.

### To Remove Adapter from Chuck

1. Retract lugs. If lugs fail to retract, refer to Troubleshooting (page 16).
2. Loosen – do not remove – the locking pins.
3. Slide adapter off chuck and remove to workbench.

### To Disassemble Adapter

1. Position adapter with flange against the workbench surface.
2. **6"-10" and 12" Adapters:** Using a 1/8" hex drive wrench, loosen – but do not remove – the three setscrews holding retainer ring in place.  
**6"-8" Adapters:** Use a pin punch to drive out the five roll pins that hold the retainer in place. To prevent damage to the adapter body, drive pins from the inside out. (Fig. 1)
3. Remove the retainer ring and the o-ring. Lugs are now loose on this end, but still retained in the body.
4. **For all adapter sizes:** Turn adapter over and remove the other retainer ring and o-ring. Lugs can now be removed.
5. Remove lugs from slots and inspect for wear.
6. Clean all lug surfaces, lug slots, o-rings, and inside of adapter body. Inspect o-ring for cracks and replace if necessary.



# 6" ADAPTERS FOR TORQUE CHUCKS

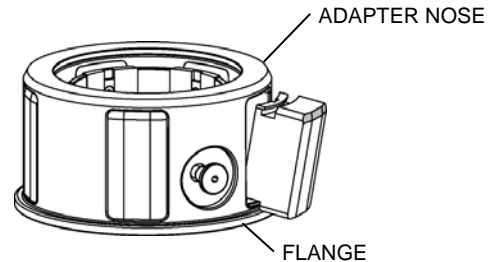
## To Reassemble Adapter

**Recommended:** Clean dust and debris from chuck before reinstalling adapter. See Operation and Maintenance manual for Tidland Raptor Series Torque Chucks.

- P/N 660289 – Tidland Raptor Series Torque Chuck Manual (3", 4" and 6" chucks)

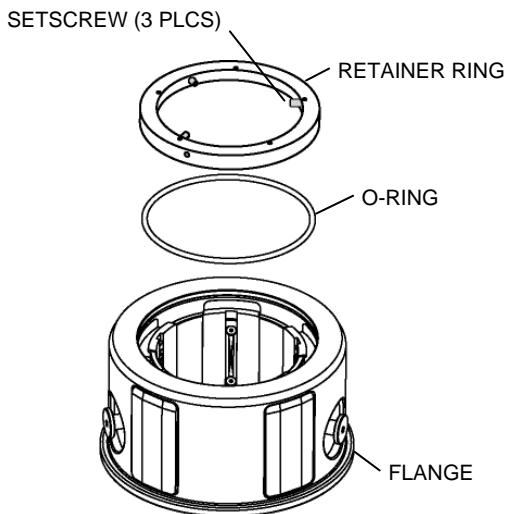
**Recommended:** Lubricate lug slots and bottom and side surfaces of lugs before reassembly. Use silicone dry film lubricant. **The use of grease products will result in contamination and allow dirt and dust to accumulate on chuck and adapter parts.**

1. With the adapter flange against the workbench surface, insert lugs into lug slots so the outside face of the lug is flush with the outside face of the adapter body.

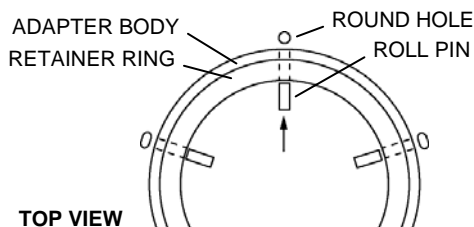


2. Reinstall one of the o-rings, making sure that it fits in the grooves of all five lugs.
3. Reinstall one of the retainer rings. Make sure it seats completely over the lugs.
4. **For 6"-10" and 12" Adapters:** Apply a small amount of *LOCTITE 242* to the setscrew threads and tighten them until they just bottom out. (1/8" hex drive) Do not over tighten. **For 6"-8" Adapter:** Use five roll pins, not setscrews. To prevent damage to the adapter body, drive roll pins through the retainer ring from the inside out. Insert retainer ring and align holes. **Do not drive roll pins through threaded holes.**
5. Turn the adapter over and reinstall the remaining o-ring and retainer ring. The flange end of the adapter uses setscrews on all three sizes: 8", 10", 12".
6. Reinstall adapter on chuck using instructions on page 9.

### 6"-10", 12" ADAPTER



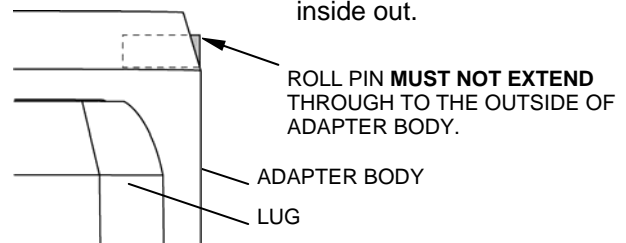
### 6"-8" ADAPTER



1. Align retainer ring roll pin holes with body roll pin holes.
2. Insert first roll pin starting with the round hole.
3. Insert remaining 4 roll pins in the oblong holes.

**Note:**

To prevent damage to the adapter body, use a pin punch and drive the roll pins from the inside out.



# 6" ADAPTERS FOR AIR POWERED LUG CHUCKS

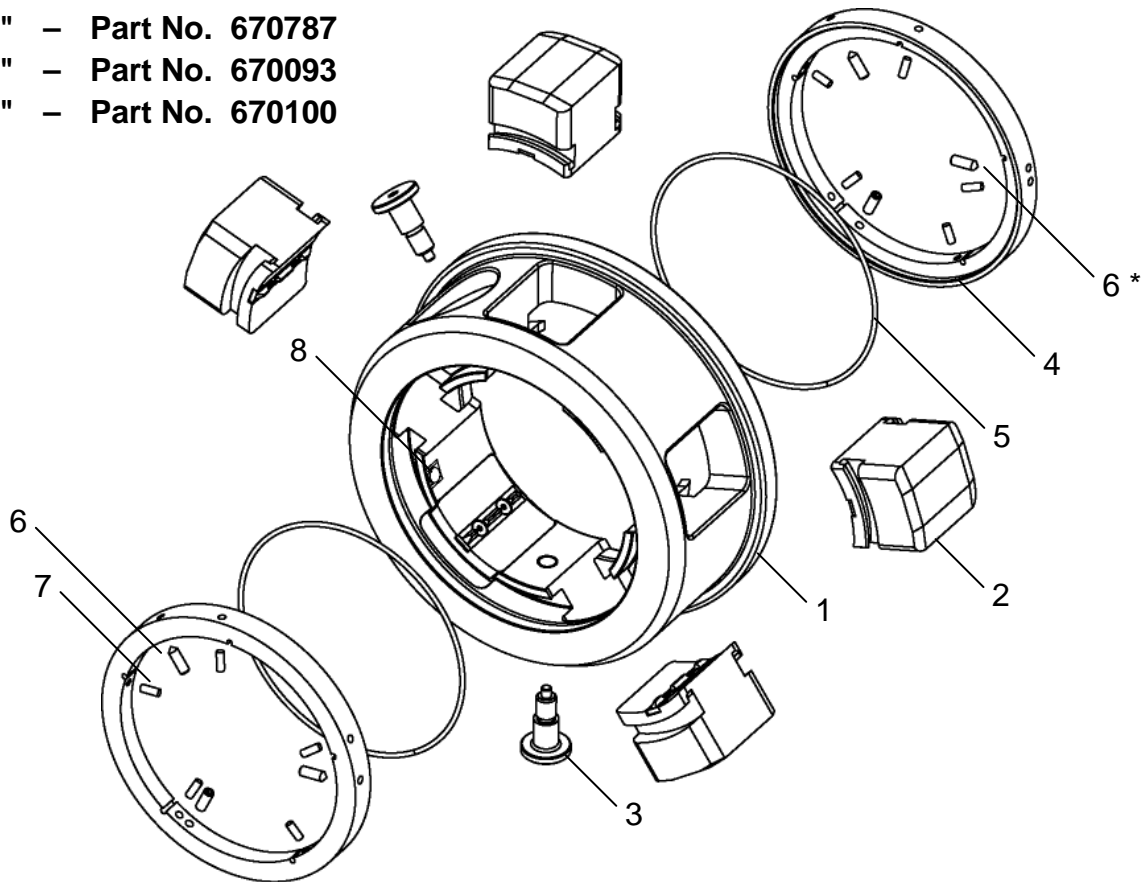
## Assembly Diagram and Parts List

These adapters are installed only onto the Tidland 6" Air Powered Lug Chuck to run core size applications as listed below (+.010"/+.020"). Adapter installation can be performed without removing the chuck from the machine.

### WARNING

Adapter weights range from 18-74 lbs. Use safe handling procedures. The adapter is equipped with a 3/8"-16 threaded insert to accommodate a screw eye for lifting.

- 6"-8" – Part No. 670787
- 6"-10" – Part No. 670093
- 6"-12" – Part No. 670100



- LUG APPEARANCE VARIES FOR EACH ADAPTER SIZE.
- THE 10" ADAPTER IS SHOWN HERE.

ITEM	DESCRIPTION	QTY	8" PART NO.	10" PART NO.	12" PART NO.
1	ADAPTER BODY	1	670788	670094	670101
2	LUG ASSEMBLY	5	670790	670096	670103
3	LOCKING PIN	2	–	643777	647032
	STSCR 3/8-16UNC x 1" LG HALF DOG PT (GRADE 8)	2	622176	–	–
4	LUG RETAINER RING	2	643776	643776	643776
5	O-RING (PARKER 2-361)	2	659906	659906	659906
6	STSCR 1/4UNC x .500" LG CONE PT	6	–	649727	649727
	* STSCR 1/4UNC x .500" LG CONE PT	3	649727	–	–
7	ROLL PIN 3/16" x 13/16" LG FOR TOP RING OF 8" ADAPTER (NO SETSCREWS)	5	657956	–	–
8	ALIGNMENT PIN	1	670098	670098	670098

# 6" ADAPTERS FOR AIR POWERED LUG CHUCKS

## Installation

- The locking pins keep the adapter from sliding off the chuck – they do not transfer torque. Torque is transferred from chuck to adapter through lug keys on underside of adapter lugs.
- **The 6"-8" adapter uses two setscrews instead of locking pins.** (3/16 hex drive)

1. Ensure that chuck lugs are completely retracted.
2. Align center of any adapter lug with the center slot on any chuck lug.
3. Slide the adapter onto the chuck body, using the alignment reference notch on the chuck body as a guide. There is a corresponding "key" (ridge) on the underside of each adapter lug that slides into the slot on top of each chuck body lug.

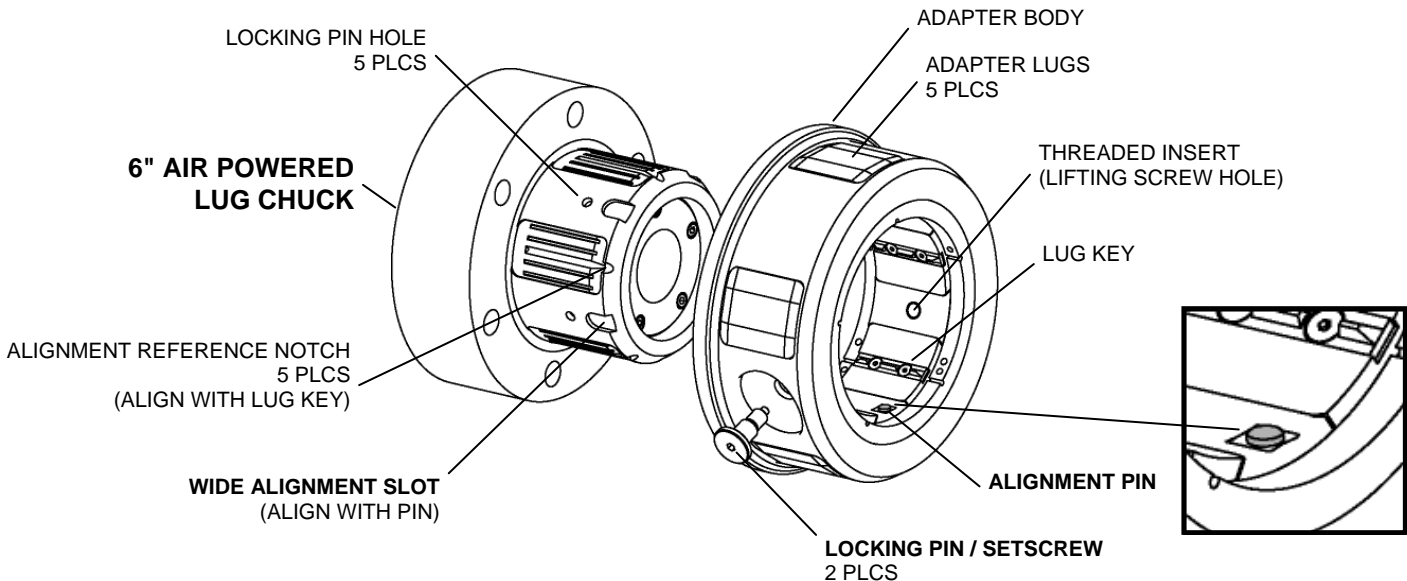


**Note the alignment pin on the inside of the adapter.** Unless this pin is aligned with one of the wide slots in the chuck body, you will not be able to slide the adapter all the way on. If necessary, rotate the adapter slightly on the chuck body until the alignment pin is in the slot. If the adapter does not contact the back flange, the locking pins will not engage properly when installed.

4. When the adapter contacts the back flange of the chuck, hand-tighten the two locking pins until the adapter is secure.

**Note:** If the locking pins/setscrews do not seat in locking pin holes, ensure that the adapter is properly aligned on the chuck body. Review Step 3 above.

**Do not install the locking pin/setscrews in the threaded insert.  
It is not threaded all the way through the adapter body.**



## Operation

When properly installed, the Raptor Series Adapter will function like the chuck. Please refer to your Tidland Operation and Maintenance Manual for Raptor Series Chuck operation instructions.

P/N 660290 – Tidland Raptor Series Air Powered Lug Chuck Manual (3" and 6" chucks)

# 6" ADAPTERS FOR AIR POWERED LUG CHUCKS

## Maintenance

### WARNING

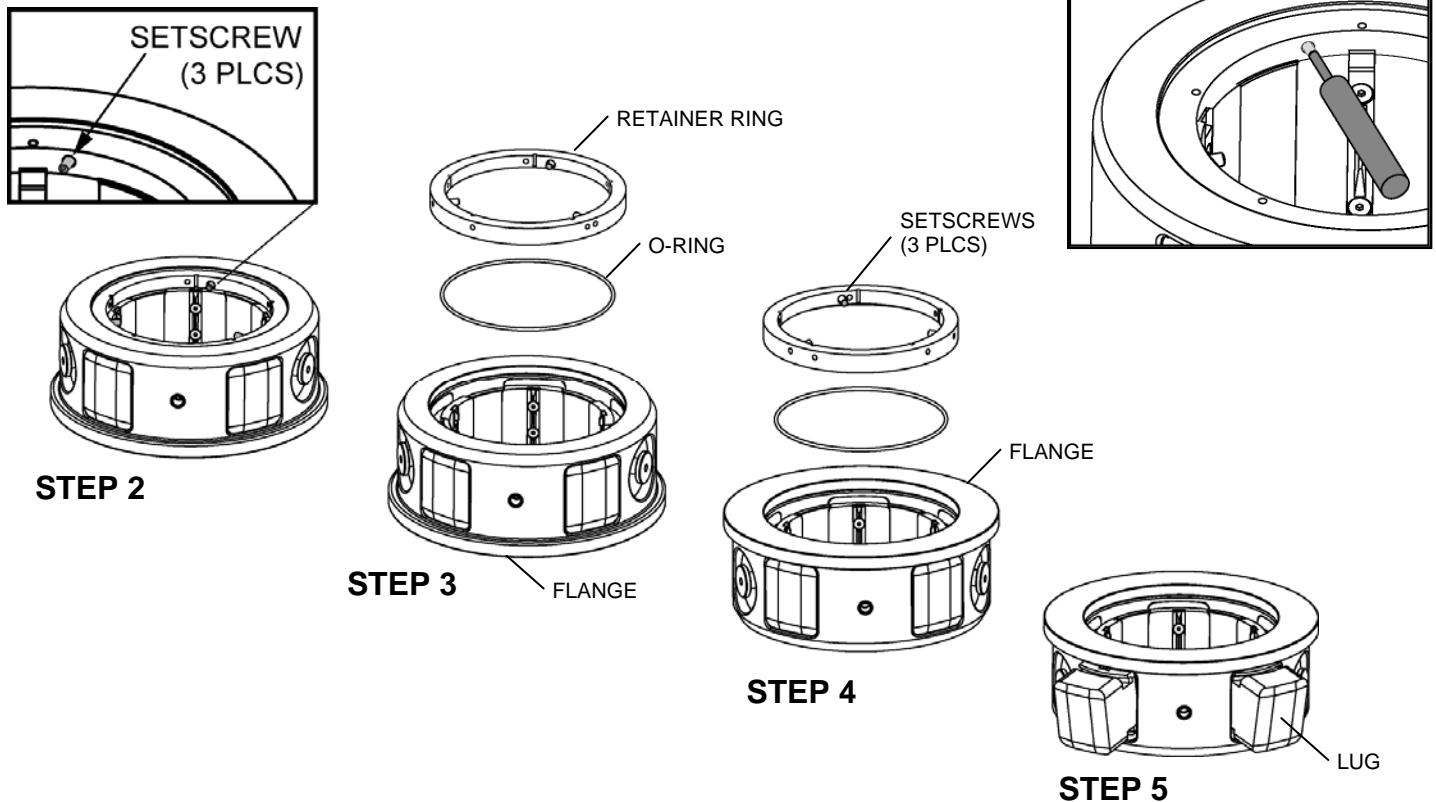
Adapter weights range from 18-74 lbs. Use safe handling procedures. The adapter is equipped with a 3/8"-16 threaded insert to accommodate a screw eye for lifting.

### To Remove Adapter from Chuck

1. Retract lugs. If lugs fail to retract, refer to Troubleshooting (page 16).
2. Loosen – do not remove – the locking pins.
3. Slide adapter off chuck and remove to workbench.

### To Disassemble Adapter

1. Position adapter with flange against the workbench surface.
2. **6"-10" and 12" Adapters:** Using a 1/8" hex drive wrench, loosen – but do not remove – the three setscrews holding retainer ring in place.  
**6"-8" Adapters:** Use a pin punch to drive out the five roll pins that hold the retainer in place. To prevent damage to the adapter body, drive pins from the inside out. (Fig. 1)
3. Remove the retainer ring and the o-ring. Lugs are now loose on this end, but still retained in the body.
4. **For all adapter sizes:** Turn adapter over and remove the other retainer ring and o-ring. Lugs can now be removed.
5. Remove lugs from slots and inspect for wear.
6. Clean all lug surfaces, lug slots, o-rings, and inside of adapter body. Inspect o-ring for cracks and replace if necessary.



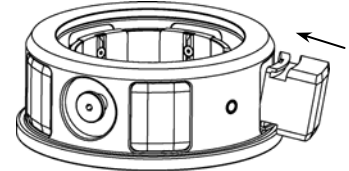
# 6" ADAPTERS FOR AIR POWERED LUG CHUCKS

## To Reassemble Adapter

### Recommended:

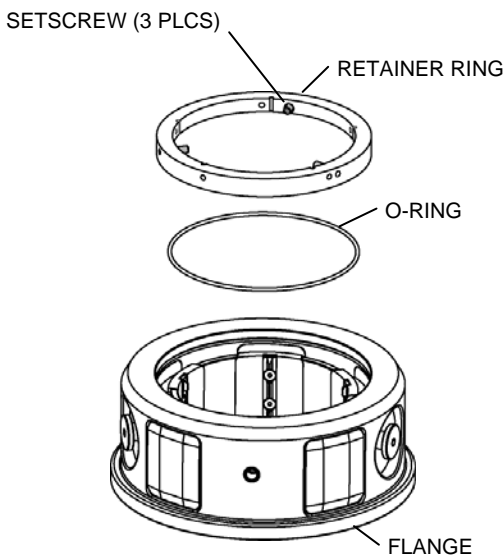
- Clean dust and debris from chuck before reinstalling adapter. See Operation and Maintenance manual for Tidland Raptor Series Air Powered Lug Chucks.
- Lubricate lug slots and bottom and side surfaces of lugs before reassembly. Use silicone dry film lubricant. **The use of grease products will result in contamination and allow dirt and dust to accumulate on chuck and adapter parts.**

1. With the adapter flange against the workbench surface, insert lugs into lug slots so the outside face of the lug is flush with the outside face of the adapter body.

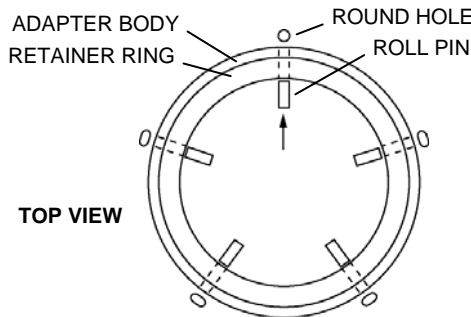


2. Reinstall one of the o-rings, making sure that it fits in the grooves of all five lugs.
3. Reinstall one of the retainer rings. Make sure it seats completely over the lugs.
4. **For 6"-10" and 12" Adapters:** Apply a small amount of *LOCTITE 242* to the setscrew threads and tighten them until they just bottom out. (1/8" hex drive) Do not over tighten. **For 6"-8" Adapter:** Use five roll pins, not setscrews. To prevent damage to the adapter body, drive roll pins through the retainer ring from the inside out. Insert retainer ring and align holes. **Do not drive roll pins through threaded holes.**
5. Turn the adapter over and reinstall the remaining o-ring and retainer ring. The flange end of the adapter uses setscrews on all three sizes: 8", 10", and 12".
6. Reinstall adapter on chuck using instructions on page 9.

### 6"-10", 12" ADAPTER



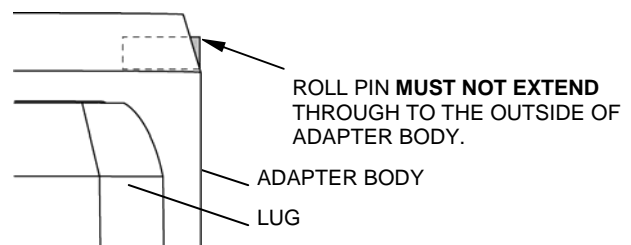
### 6"-8" ADAPTER



1. Align retainer ring roll pin holes with body roll pin holes.
2. Insert first roll pin starting with the round hole.
3. Insert remaining 4 roll pins in the oblong holes.

#### Note:

To prevent damage to the adapter body, use a pin punch and drive the roll pins from the inside out.



## TROUBLESHOOTING RAPTOR SERIES ADAPTERS

Problem	Possible Cause	Recommended Solution
Adapter lugs don't retract	Base chuck lugs still activated by actuator	Torque Chucks: Rotate chuck backwards until lugs retract. Air Powered Chucks: Deflate chuck.
	Lugs jammed with core fibers	Remove core. Disassemble and clean adapter lugs.
	Broken rollers or lugs inside base chuck body	Remove core. Disassemble and clean chuck.
	Broken o-ring(s)	Remove core. Disassemble adapter and replace broken parts.
	Internal core damage can create buildup of debris between core and chuck body.	Remove core. Disassemble and clean chuck and adapter.
Adapter moving on chuck	Locking pin/setscrew not installed	Install locking pin/setscrew.
	Locking pin/setscrew not installed correctly	Check alignment of lug keys and ensure that locking pin/setscrew is properly seated.
	Locking pin/setscrew broken	Replace locking pin/setscrew.
Adapter locking pin/setscrew doesn't seat	Adapter not aligned properly on chuck	Check alignment of adapter lug keys with corresponding lugs on chuck. Adapter should slide on easily when chuck lugs are fully deflated.
Adapter locking pin/setscrew breaking off	Locking pin/setscrew not fully inserted below surface of adapter body	Check for proper alignment of locking pin/setscrew. Ensure that it is fully inserted and seated in locking pin hole.
Core will not fit onto adapter	Locking pin/setscrew not fully inserted below surface of adapter body	Check for proper alignment of locking pin/setscrew. Ensure that it is fully inserted and seated in locking pin hole.
	Wrong core size	Check core size.

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