



Extending Tooling Life

Maintenance and Operations Guide

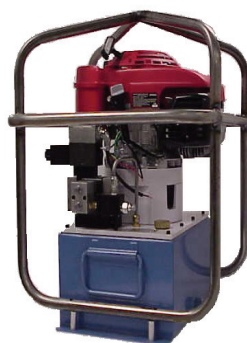


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Tooling Overview

Tooling used in Solar Field Applications

1/4" BobTail® Fastener with 244BT or A1100 Tool (air powered)

5/16" BobTail Fastener with 244BT Tool (air powered)

12mm BobTail Fastener with SF20 Tool (hydraulic powered)

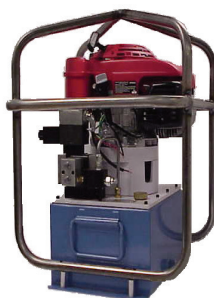
1/2" BOM® Fastener with 2624 or 2624PTD
(hydraulic powered)

NEXTracker uses Arconic Huck® fasteners and tools for key installation steps. Huck is the high performance brand of Arconic Fastening Systems and Rings.

The Huck Fastening System includes the tools and equipment shown below.



Tool with interchangeable nosepiece for fastening or cutting



Hydraulic power source



BobTail® fastener and collar



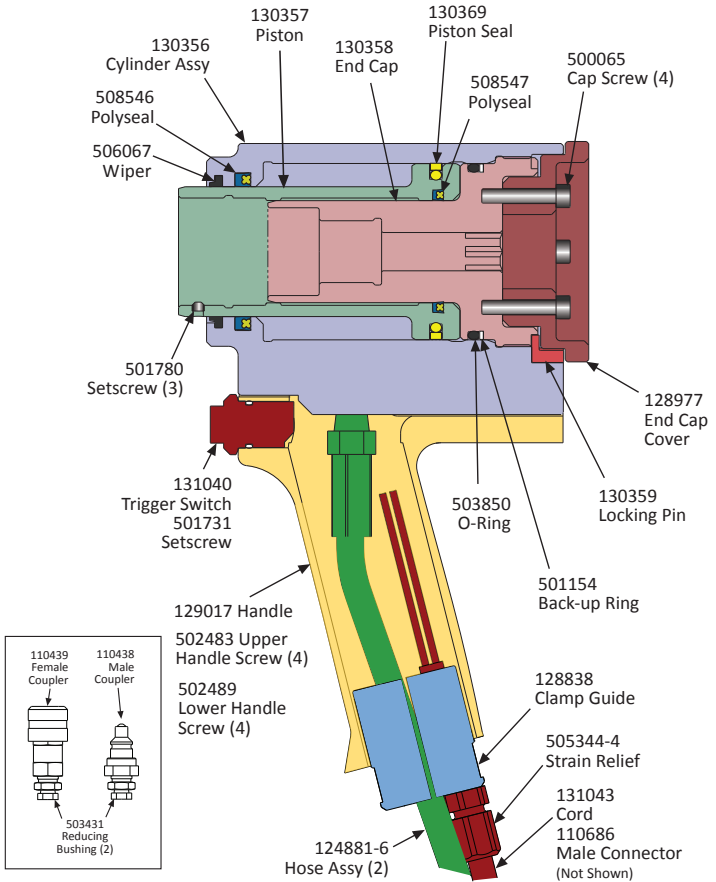
BOM® (Blind Oversized Mechanical) fastener

Tooling Fastener Application Summary

Installation Step	Required Huck Tools	Type	Fasteners per Unit
Slow Drive Mount Installation	• Powerig® 913H • SF20 Swaging Tool	Hydraulic	• 12 - M12 BobTail® Pin Grip 20 (5156) • 12 - M12 BobTail Collar (5157)
Bearing Housing Assembly Installation	• Powerig 913H • SF20 Swaging Tool	Hydraulic	• 6 - M12 BobTail Pin Grip 20 (5156) • 6 - M12 Bobtail Collar (5157)
Torque Tube Installation (@ Motor Pier)	• Powerig 913H • 2624 or 2624PTD Swaging Tool	Hydraulic	• 12 - R16 BOM® Fastener Grip 6 (5069) Interior Row
Torque Tube Installation (@ Array Pier)	• Powerig 913H • 2624 or 2624PTD Swaging Tool	Hydraulic	• 6 - R16 BOM Fastener Grip 4 (5070)
Upper Damper Mount Installation	• Powerig 913H • 2624 or 2624PTD Swaging Tool	Hydraulic	• 2 - R16 BOM Fastener Grip 10 (5069)
Module Installation	• Air Compressor • 244BT Swaging Tool	Pneumatic	• 4 - F8 BobTail Pin Grip 2 (4110-8) • 4 - F8 BobTail Collar (4111-8)
	• A1100 Swaging Tool		• 4 - F8 BobTail Pin Grip 2 (4110-8) • 4 - F8 BobTail Collar (4111-8)

Tooling Details

SF20



Hydraulic Pressure Requirements

for SF20 installing M12 BobTail® Fasteners:

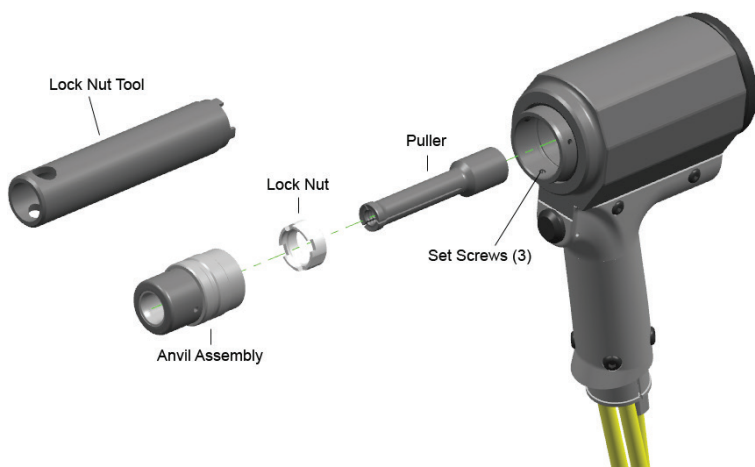
Pull Pressure: 4200 psi

Return Pressure: 2200 psi

Quick Reference Material

Installation Nose Assembly

Hydraulic - SF20 Series with 99-7880



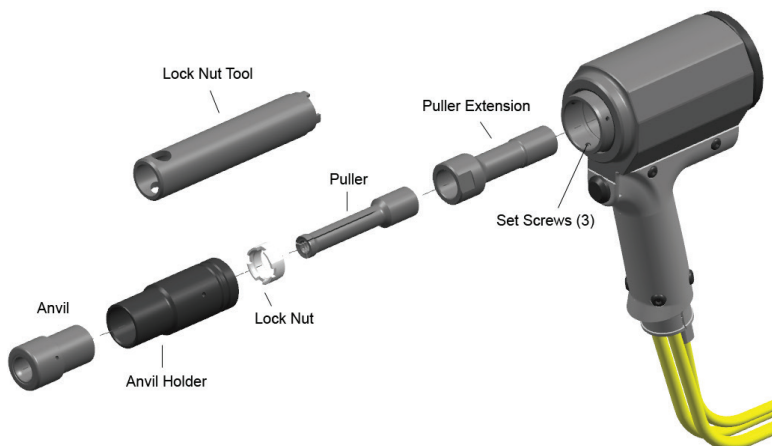
1. Thread lock nut onto the puller until only a few threads are engaged.
(Refer to Nose Drawing for more detail)
2. Thread puller into front of end cap until it bottoms.
3. Tighten lock nut with lock nut wrench.
4. Remove the 3 set screws from the tool piston.
5. Lubricate puller, slide anvil over puller and thread into tool piston. Tighten anvil with spanner wrench.
6. Re-install and tighten the 3 set screws from the tool piston.

NOTE: Puller and lock nut are left hand threads.

Quick Reference Material

Installation Nose Assembly

Hydraulic - SF20 Series with 99-7880X-3



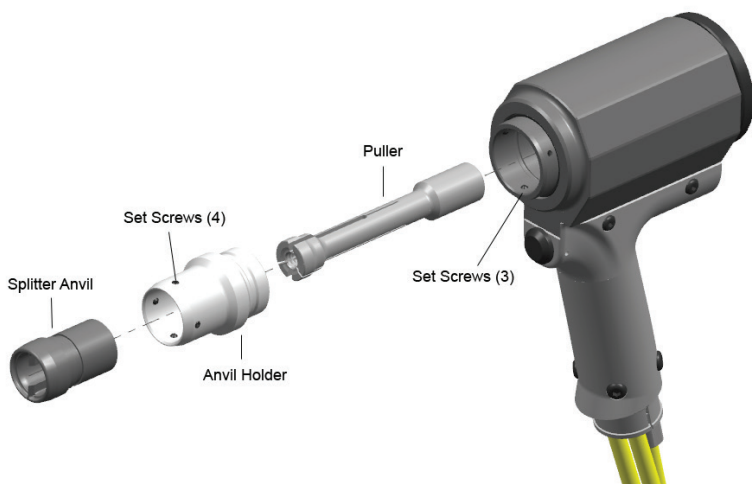
1. Apply Loctite® 243 to puller extension's external threads.
2. Thread puller extension into tool's endcap using 3/8" Hex Key. (LH threads refer to nose drawing for more detail)
3. Thread locknut onto puller as shown.
4. Thread puller fully into extension, tighten locknut.
5. Thread anvil extension into the SF20 tool piston, tighten setscrews.
6. Apply Loctite 243 to anvil assembly threads.
7. Apply anti-seize to outside of puller and inside of anvil.
8. Install anvil over puller and thread into anvil holder.

NOTE: Puller extension, puller and lock nut are left hand threads.

Quick Reference Material

Cutter Nose Assembly

Hydraulic - SF20 Series with 99-7880CX



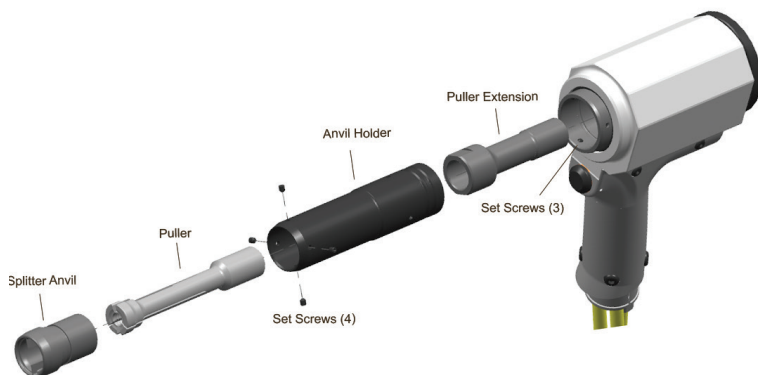
1. Apply anti-seize lubricant onto outside of puller.
2. Thread puller into the tool's end cap.
3. Remove the 3 set screws from piston. Install anvil holder over puller and thread it onto the piston. Re-install set screws.
4. Align anvil with grooves in puller and then push the anvil into anvil holder.
5. Install the 4 set screws using locking compound.

NOTE: Puller is left hand threads.

Quick Reference Material

Cutter Nose Assembly

Hydraulic - SF20 Series with 99BT-M12-CLAT



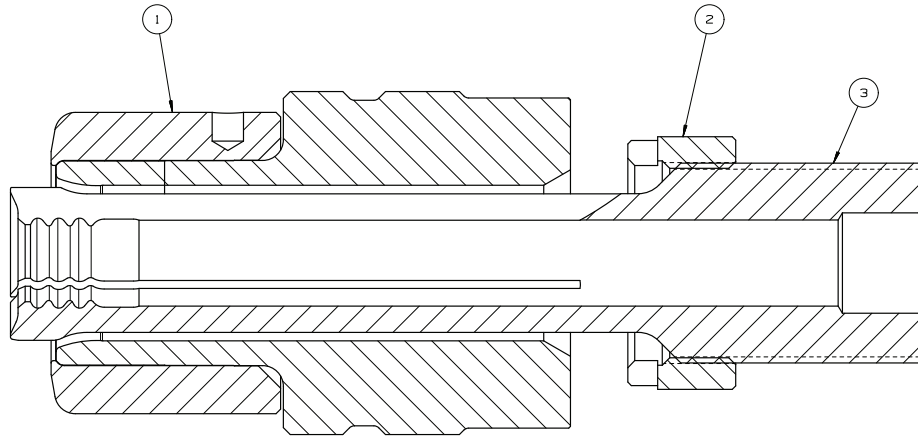
1. Apply anti-seize lubricant onto outside of puller.
2. Thread the puller into puller extension.
3. Thread the puller and extension into the tool's end cap.
4. Remove the 3 set screws from piston. Install anvil holder over puller and thread it onto the piston. Re-install set screws.
5. Align anvil with grooves in puller and then push the anvil into anvil holder.
6. Install the 4 set screws using locking compound.

NOTE: Puller and extension are left hand threads.

Nose Assembly Details

99-7880

(For 12mm BobTail® with SF20 tool)

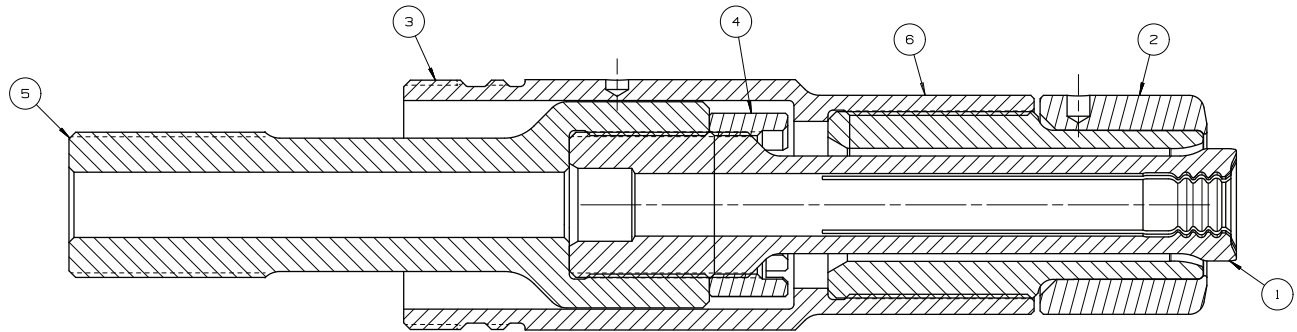


128929	1	PULLER	3
128807	1	LOCK NUT	2
128930	1	ANVIL ASSEMBLY	1
PART NO.	QTY	DESCRIPTION	ITEM

Nose Assembly Details

99-7880X-3

(For 12mm BobTail® with SF20 tool)

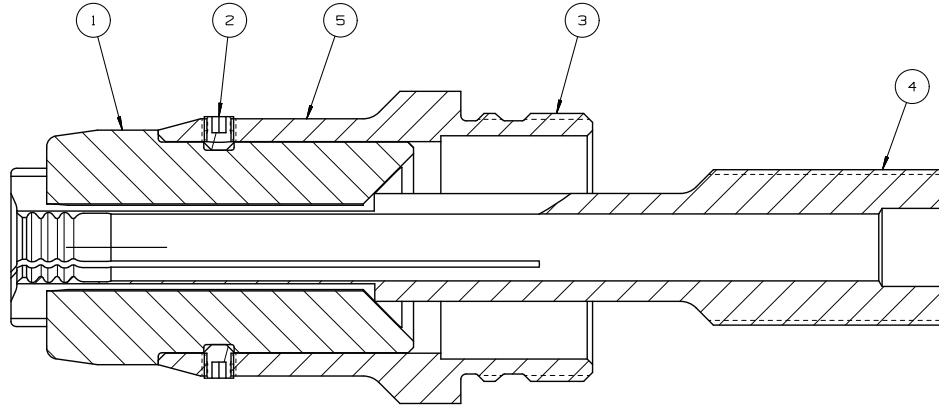


590516	1	STICKER, WARNING, MOVING PARTS	6
131014	1	EXTENSION, PULLER, 3"	5
128807	1	LOCKNUT, PULLER	4
131071	1	HOLDER, ANVIL, SF20, 3	3
128759-1	1	ANVIL ASM, SF20, 12MM BT	2
131072	1	PULLER, SF20, 12MM BT	1
PART NO.	QTY	DESCRIPTION	ITEM

Cutter Nose Assembly Details

99-7880CX

(For 12mm BobTail with SF20 tool)

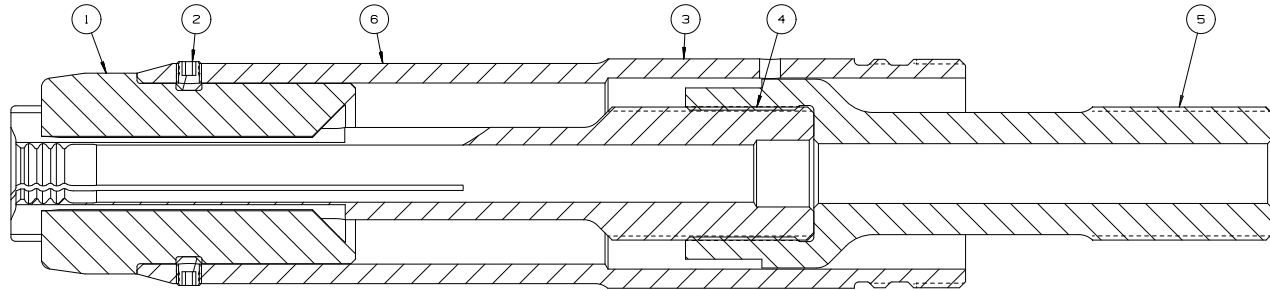


590516	1	WARNING STICKER	5
130036	1	PULLER, COLLAR SPLITTER	4
128936	1	ANVIL HOLDER	3
501781	4	SSCR, #8-32 X 3/16	2
129975	1	ANVIL, COLLAR SPLITTER	1
PART NO.	QTY	DESCRIPTION	ITEM

Cutter Nose Assembly Details

99BT-M12-CLAT

(For 12mm BobTail with SF20 tool)



590516	1	WARNING STICKER	6
131014	1	EXTENSION, PULLER, SF20 ,3	5
130036	1	PULLER, CUT, SF20 , 12MM	4
131187	1	HOLDER, ANVIL, CUT, SF20 , 3	3
501781	4	SSCR SOC FLT #08-32 X .19	2
129975	1	ANVIL, CUT, BTT25, -12MM BT	1
PART NO.	QTY	DESCRIPTION	ITEM

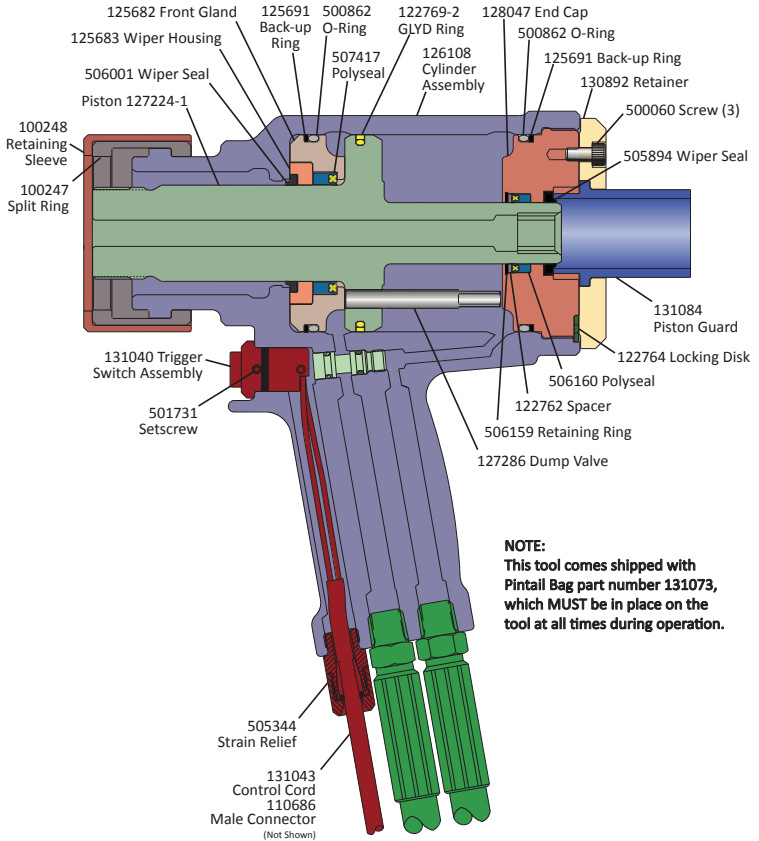
Inspection Checklist

SF20 Hydraulic BobTail Installation Tool

Performed by:		
Date:		
Serial Number:		
Item#	Action	Completed
1	Inspect tool and nose for external damage	
2	Inspect hydraulic hose for signs of damage	
3	Remove and clean nose assembly	
4	Measure puller - to second tooth, Spec: 0.174" new; 0.168" min Replace if below min spec.	
5	Inspect electric cord for physical damage	
6	Tighten wire strain relief gland nut	
7	Inspect switch function using a continuity tester	
NOTES:		

Tooling Details

2624



Hydraulic Pressure Requirements

For installing R16 BOM®:

Pull Pressure: 5000 psi

Return Pressure: 1800 psi

For cutting out stripped 12mm BobTail®:

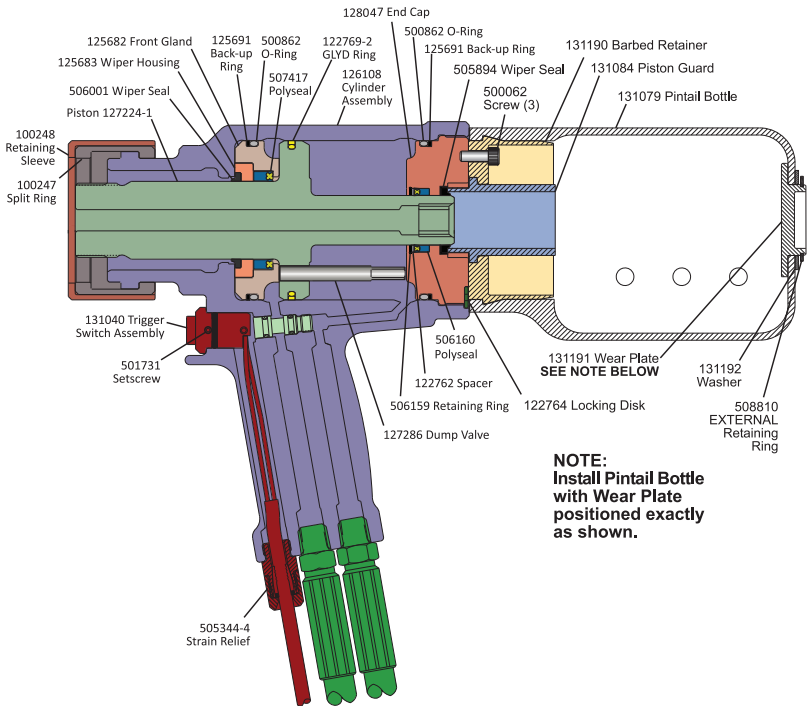
Pull Pressure: 2900 psi

Return Pressure: 1500 psi

Tooling Details

2624PTD

(Pass-thru Version)



Hydraulic Pressure Requirements

For installing R16 BOM®:

Pull Pressure: 5000 psi

Return Pressure: 1800 psi

For cutting out stripped 12mm BobTail®:

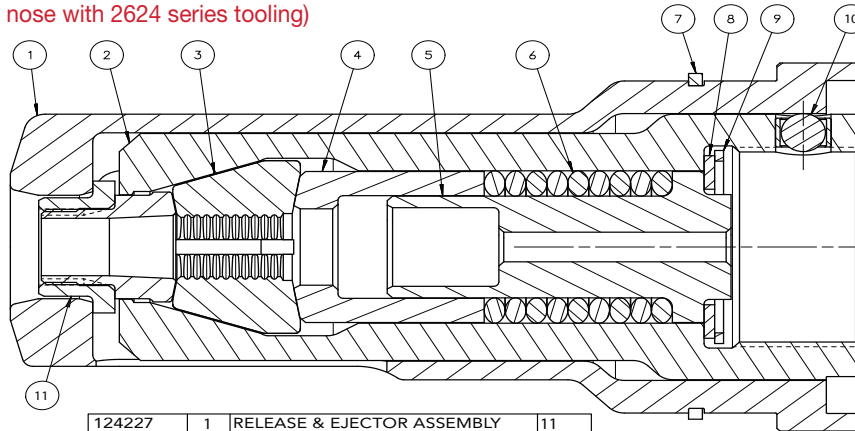
Pull Pressure: 2900 psi

Return Pressure: 1500 psi

Nose Assembly Details

99-5104

(For R16 BOM® nose with 2624 series tooling)

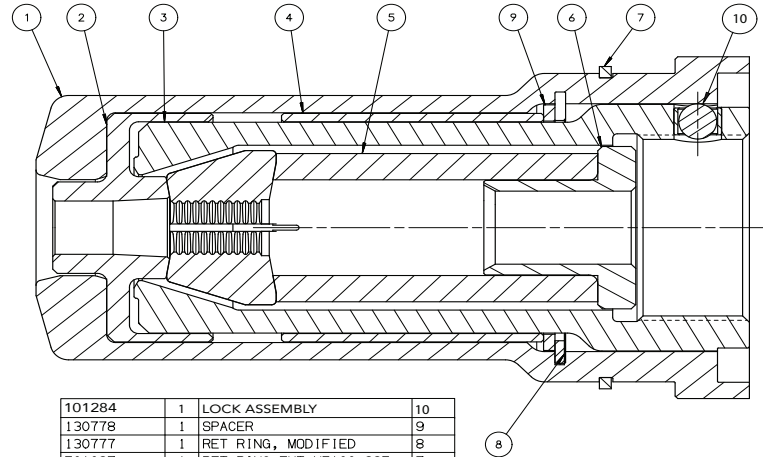


124227	1	RELEASE & EJECTOR ASSEMBLY	11
101284	1	LOCK ASSEMBLY	10
502263	1	RET RING-INT 5008-125	9
508579	1	WASHER	8
501027	1	RET RING-EXT N5100-225	7
506455	9	O-RING AS568-209 C366Y D70	6
130586	1	SLEEVE	5
123581	1	FOLLOWER	4
120118	1	JAW, CHUCK, 3P, -16 BOM	3
130585	1	COLLET ASSEMBLY	2
130583	1	ANVIL, -16 BOM	1
PART NO.	QTY	DESCRIPTION	ITEM

Nose Assembly Details

99-5106

(For R16 BOM nose with 2624PTD installation tool)

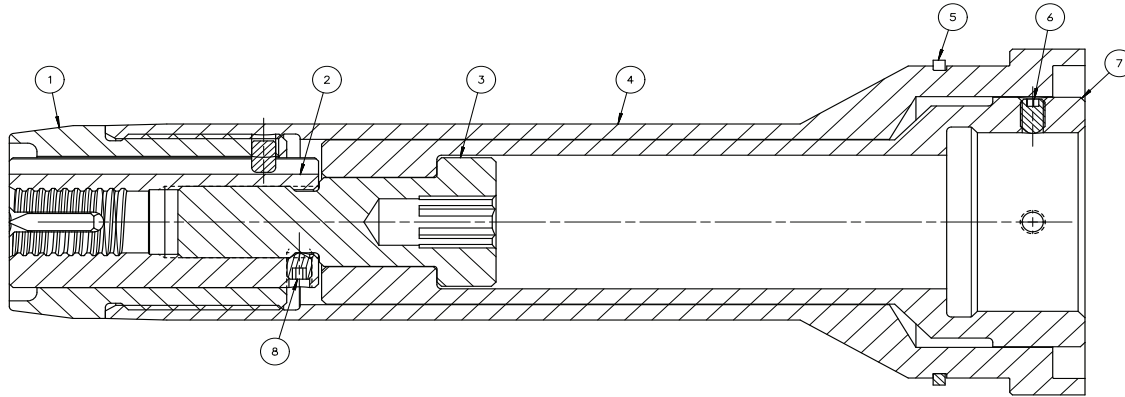


101284	1	LOCK ASSEMBLY	10
130778	1	SPACER	9
130777	1	RET RING, MODIFIED	8
501027	1	RET RING-EXT N5100-225	7
130658	1	SLEEVE	6
130657	1	JAW, CHUCK, 3P, -16 BOM	5
130779	1	SPACER, TUBE	4
130772	1	COLLET ASSEMBLY	3
130773	1	EJECTOR, -16 BOM	2
130774	1	ANVIL, -16 BOM	1
PART NO.	QTY	DESCRIPTION	ITEM

Cutter Assembly Details

99BT-M12-CRAJ

(For cutting stripped 12mm BobTail with 2624 or 2624PTD installation tool)



501736	1	SSCR SOC CON #08-32 X .19	8
128327	1	SPINDLE, 2624, 12MM	7
121343-57	2	SCREW, LOCKING, SPECIAL	6
501027	1	RET RING-EXT N5100-225	5
128326	1	HOLDER, ANVIL, 2624	4
128443	1	BOLT, SPINDLE, 12MM	3
131169	1	THIMBLE, CUT, 12MM BT	2
128332	1	ANVIL ASM, CUT, -12MM	1
PART NO.	QTY	DESCRIPTION	ITEM

How to use Cutter Assembly

99BT-M12-CRAJ

(For cutting stripped 12mm BobTail with 2624 or 2624PTD installation tool)

- Install cutter nose onto tool using the same method used to install installation nose
- Thread cutter nose onto major diameter of pin by turning the anvil holder clockwise
- Thread cutter nose until it bottoms onto collar, then back off of the collar approximately 1/32"
- Depress trigger and hold until cutter nose bottoms on work piece
- Release trigger and let tool fully return
- Once the tool is fully returned, unthread cutter counter clockwise from pin.

Caution: Cut collars are very sharp

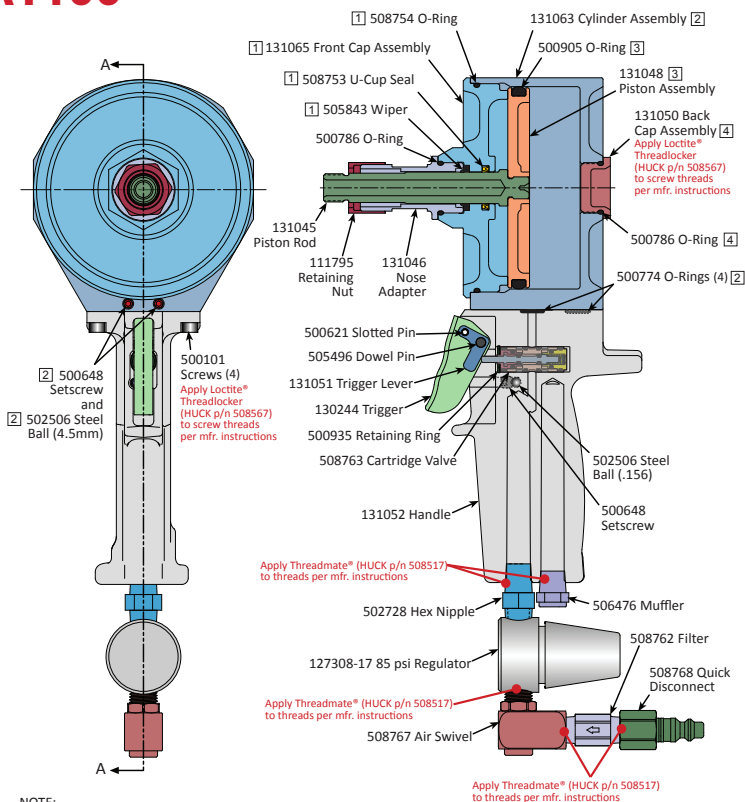
Inspection Checklist

2624PTD Hydraulic Installation Tool

Performed by:		
Date:		
Serial Number:		
Item#	Action	Completed
1	Inspect pintail bag for any signs of damage	
2	Inspect tool and nose for external damage	
3	Inspect hydraulic hose for signs of damage	
4	Remove and clean nose assembly	
5	Inspect electric cord for physical damage	
6	Tighten wire strain relief gland nut	
7	Inspect switch function using a continuity tester	
NOTES:		

Tooling Details

A1100



NOTE:
 Front Cap, Cylinder, Piston, and Back Cap are not sold separately.
 Front Cap Assembly includes components labeled with [1].
 Cylinder Assembly includes components labeled with [2].
 Piston Assembly includes components labeled with [3].
 Back Cap Assembly includes components labeled with [4].

SECTION A-A

Air Pressure Requirements

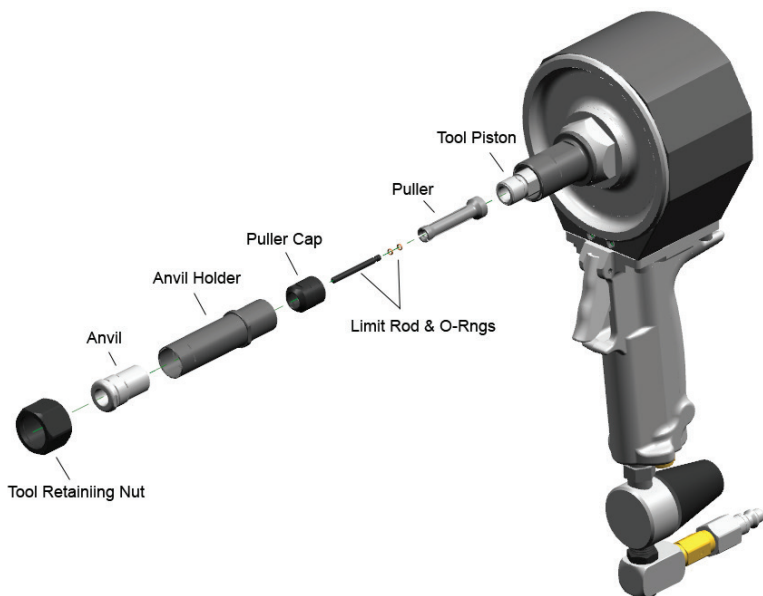
1/4" BT08-F-()-() pins

with BTC-I8 collars installed using:

A1100 will use Regulator, Huck p/n: 127308-17 (85 psi)

Quick Reference Material

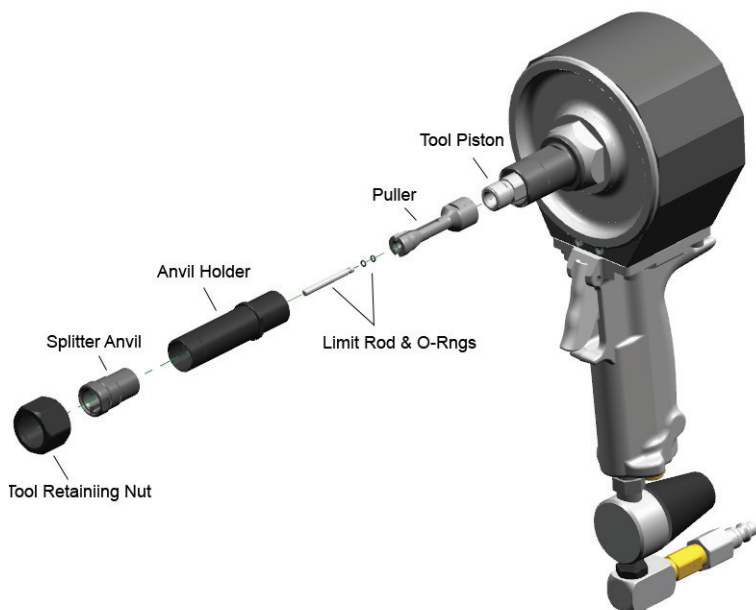
A1100 Tool Nose Assembly Installation with 99-7932L Installation Nose



1. Insert limit rod and o-rings into puller.
2. Slide puller cap over puller and tighten to piston.
3. Thread anvil into anvil holder.
4. Lubricate puller with anti-seize or equivalent and slide anvil/anvil holder over puller and seat in tool.
5. Slide retaining nut over end of anvil holder, thread onto tool and tighten.

Quick Reference Material

A1100 Tool Nose Assembly Installation with 99-7932LCC Cutter Nose

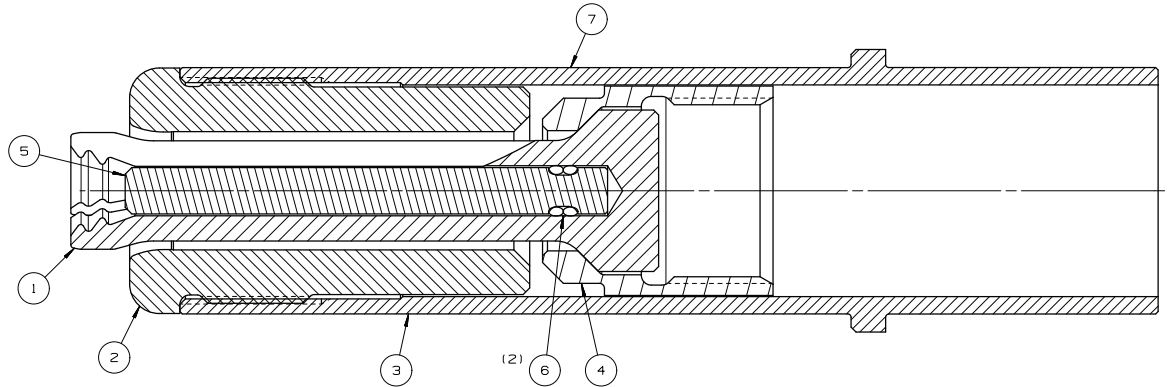


1. Insert limit rod and o-rings into puller.
2. Thread puller onto piston, tighten with wrench.
3. Thread splitter anvil into anvil holder.
4. Lubricate puller with anti-seize or equivalent.
Line up puller slots with splitter anvil and slide assembly over puller and seat in tool.
5. Slide retaining nut over end of anvil holder, thread onto tool and tighten.

Nose Assembly Details

99-7932L

(For 1/4" BobTail with A1100 tool)

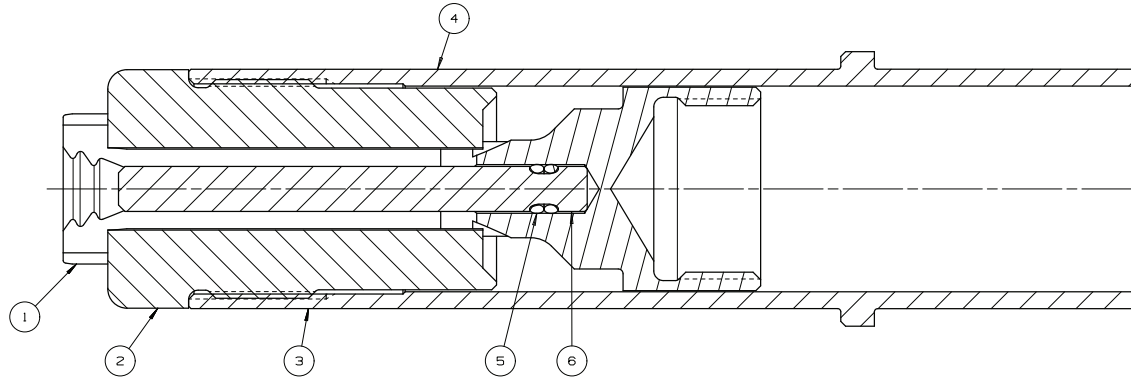


590273	1	STICKER, WARNING, MOVING PARTS	7
508529	2	O-RING .094 ID X .032 CS	6
130320	1	LIMIT ROD, PULLER, -08 BT	5
130319	1	PULLER CAP -08 BT	4
129113	1	HOLDER, ANVIL, 244BT	3
129112	1	ANVIL, 244BT, -08 BT	2
130318	1	PULLER, 244BT, -08	1
PART NO.	QTY	DESCRIPTION	ITEM

Nose Assembly Details

99-7932LCC

(For 1/4" BobTail with A1100 tool)



130320	1	LIMIT ROD, PULLER, -08 BT	6
508529	2	O-RING	5
590273	1	STICKER, WARNING, MOVING PARTS	4
129113	1	HOLDER, ANVIL, 244BT	3
129747	1	ANVIL, CUT, 244BT, -08 BT	2
129748	1	PULLER, CUT, 244BT, -08 BT	1
PART NO.	QTY	DESCRIPTION	ITEM

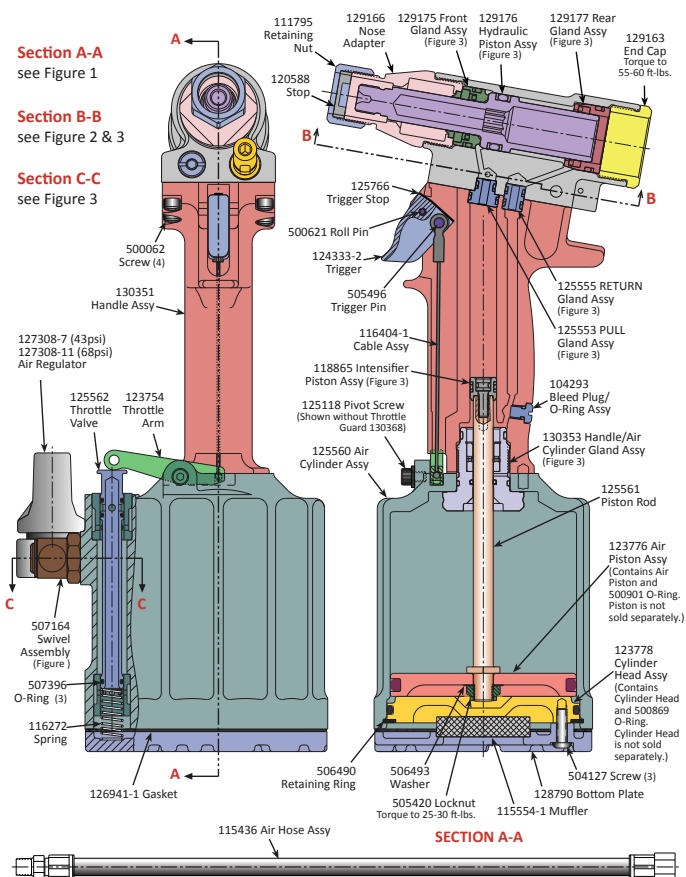
Inspection Checklist

A1100 BobTail Rivet Tool

Performed by:		
Date:		
Serial Number:		
Item#	Action	Completed
1	Add 3 drops of oil to air inlet hose	
2	Clean air line of dirt	
3	Check all air couplings for damage	
4	Remove and clean nose assembly	
NOTES:		

Tooling Details

244BT - Fig. 1



Air Pressure Requirements

1/4" BT08-F-()-() pins

with BTC-I8 collars installed using:

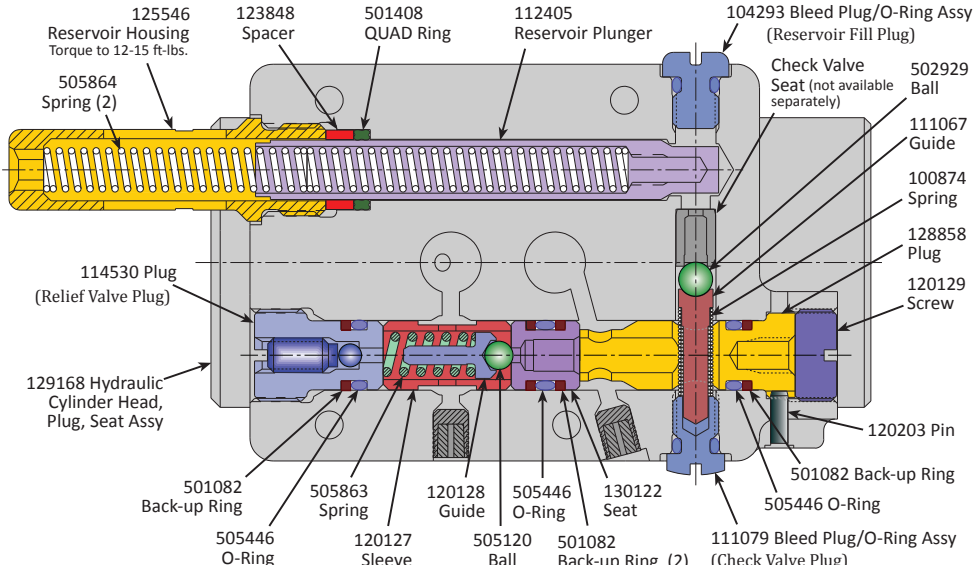
244BT will use Regulator, Huck p/n: 127308-7 (43 psi)

5/16" BT10-F-()-() pins

with BTC-I10 collars installed using:

244BT will use Regulator, Huck p/n: 127308-11 (68 psi)

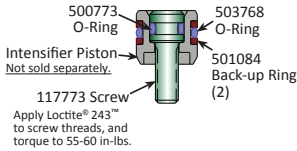
244BT - Fig. 2



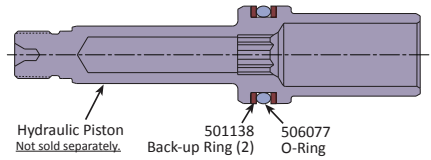
Tooling Details

244BT - Fig. 3

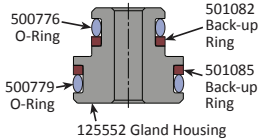
118865 Intensifier Piston Assembly



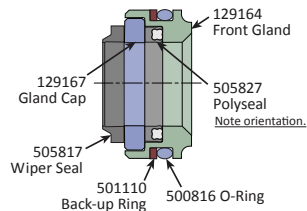
129176 Hydraulic Piston Assembly



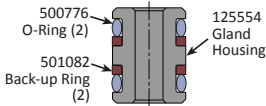
125553 PULL Gland Assembly



129175 Front Gland Assembly

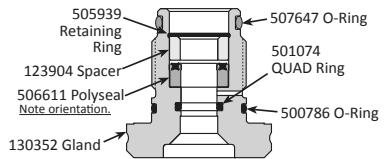


125555 RETURN Gland Assembly

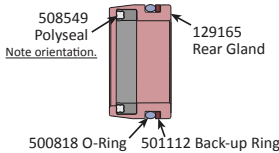


130353 Handle/Air Cylinder Gland Assembly

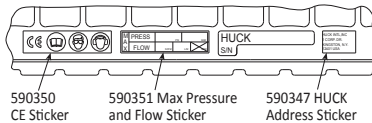
Apply Anti-seize compound to screw threads, and torque to 55-60 ft-lbs.



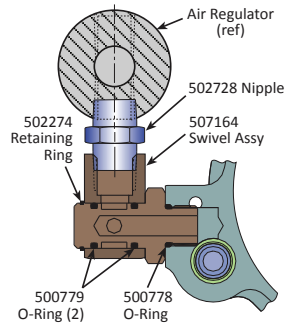
129177 Rear Gland Assembly



Detail of Sticker Locations on Bottom of Air Cylinder



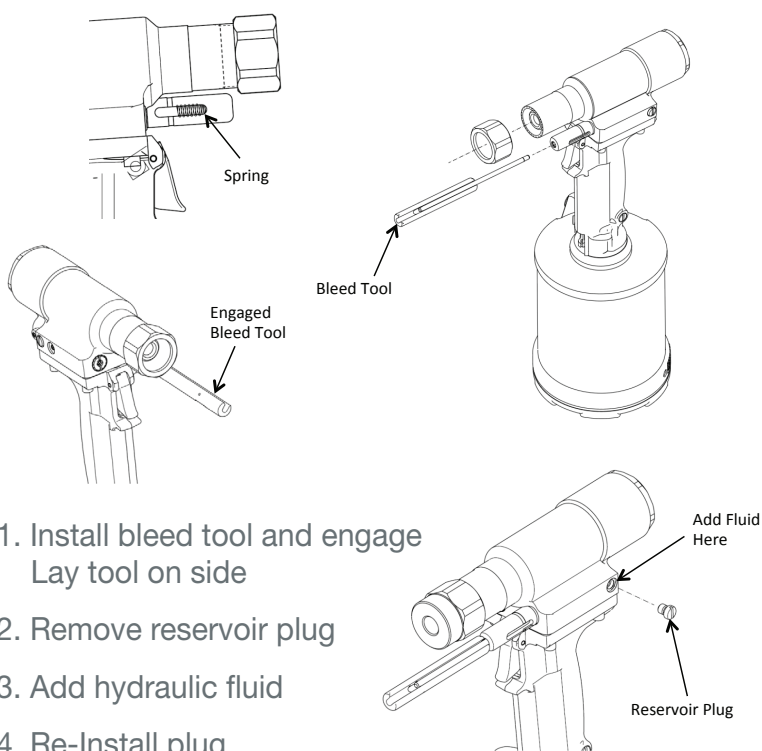
SECTION C-C



Quick Reference Material

Top Off – 244BT Series

The 244BT uses a spring-powered oil reservoir gauge with a red line to indicate oil level. The oil level in the tool should be topped off routinely so that the red line on the reservoir piston does not drop below the red line on the reservoir spring housing.



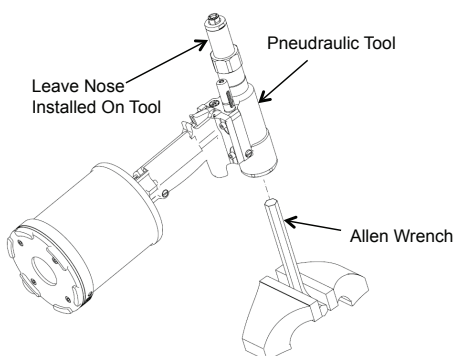
1. Install bleed tool and engage
Lay tool on side
2. Remove reservoir plug
3. Add hydraulic fluid
4. Re-Install plug
* Make sure reservoir plug is tight
5. Disengage bleed tool & cycle
6. Repeat 1 thru 5 as necessary
7. Remove bleed tool

* Use this method when the spring appears in the reservoir window but not below the red line

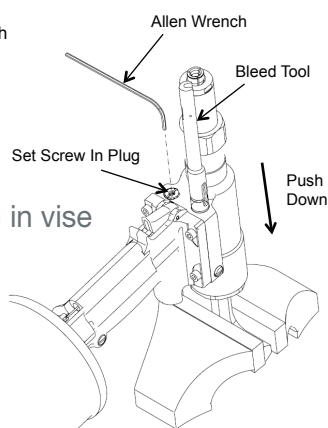
Quick Reference Material

Removing Piston Drift – 244BT Series

It is possible for the hydraulic piston in the head of the 244BT to drift back in the housing. This prevents the nose from opening up the pull jaws completely and reduces the stroke of the tool. The following procedure returns the hydraulic piston to its proper position.

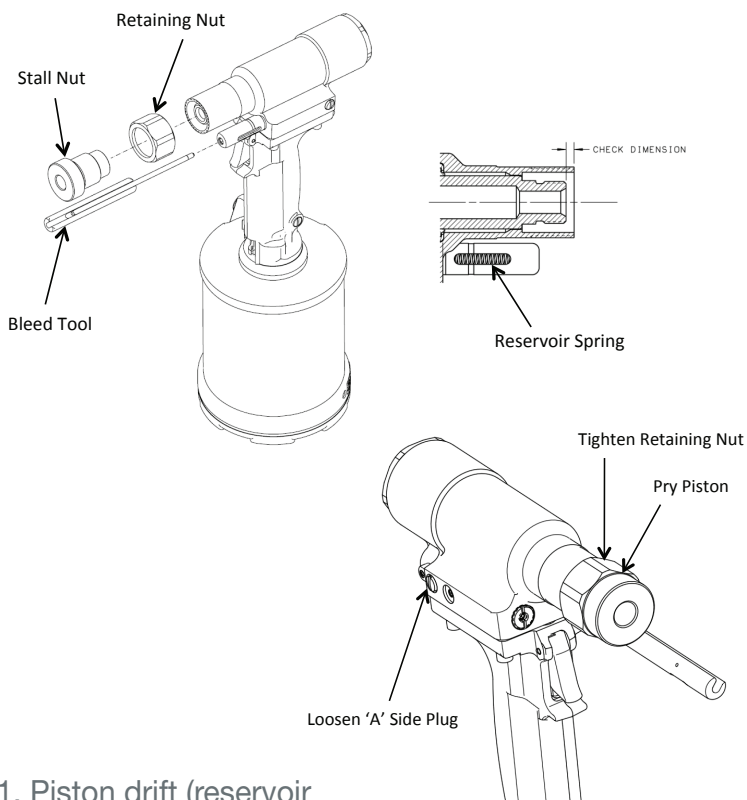


1. Place appropriate Allen wrench in vise and install tool on Allen wrench
2. Install bleed tool on tool reservoir and engage
3. Loosen setscrew in plug
4. Push tool housing/head down to move to the full forward position
5. Tighten setscrew in plug
6. Remove tool from vise
7. Remove bleed tool
8. Cycle tool several times
9. If necessary, follow top-off procedure



Quick Reference Material

Bleeding Tool – 244BT (page 1 of 2)

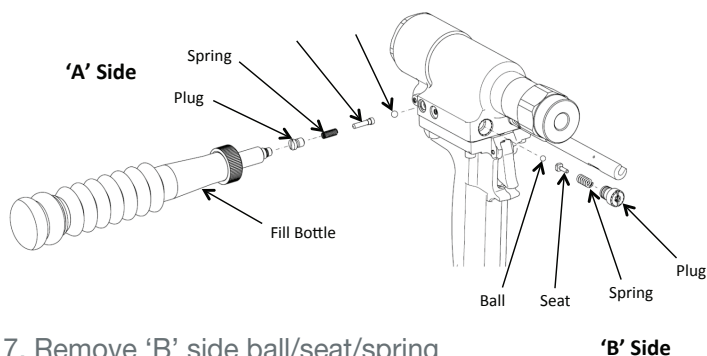


1. Piston drift (reservoir spring visible and/or Red Line)
2. Check dimension with spec in manual
3. Install bleed tool, engage and tighten stall nut
4. Loosen 'A' side plug
5. Pry piston forward
6. Tighten retaining nut

* Use this method when the spring appears below the red line of the reservoir window

Quick Reference Material

Bleeding Tool – 244BT (page 2 of 2)



7. Remove 'B' side ball/seat/spring

8. Replace 'B' side plug only

9. Remove 'A' side ball/seat/spring

10. Screw in fill bottle & cycle tool 10 times (horizontal and vertical) until air bubbles are no longer visible in fill bottle fluid

* Connect To 40 PSI air supply

11. Remove fill bottle & re-install ball/seat/spring and plug

12. Remove 'B' side plug

13. Re-install ball/seat/spring and plug on 'B' side

* make sure all bleed & port screws are tight

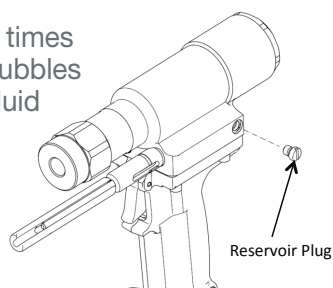
14. Disengage bleed tool and cycle

15. Engage bleed tool

16. Remove reservoir plug and add hydraulic fluid

17. Repeat 14, 15 & 16 As necessary until spring is not visible in the reservoir window

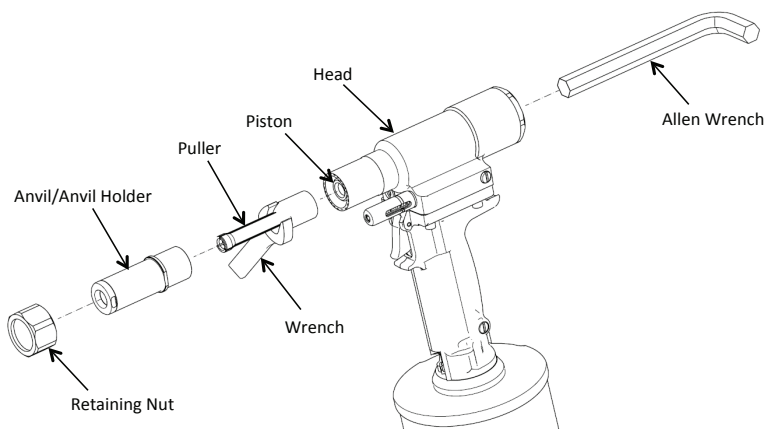
18. Remove bleed tool and stall nut



* It may be necessary to crack the bleed screw on the opposite side of head to get the ball, seat & spring to drop out.

Quick Reference Material

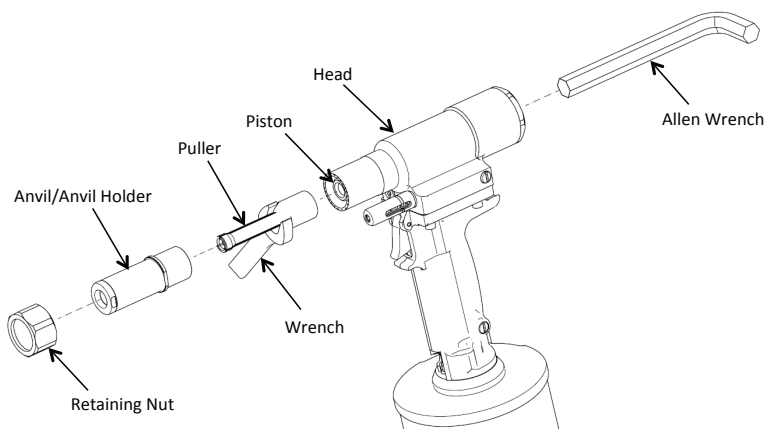
244BT Tool Nose Assembly Installation with 99-7932CC Cutter Nose



1. Insert allen wrench into back of piston.
2. Thread puller onto piston, tighten with wrench.
3. Lubricate puller with anti-sieze or equivalent.
4. Line up puller slots with cutter anvil and slide assembly over puller and seat on head.
4. Slide retaining nut over end, thread onto head and tighten.

Quick Reference Material

Pneudraulic Tool Nose Assembly Installation
with 99-7932 or 99-7933 Installation Nose

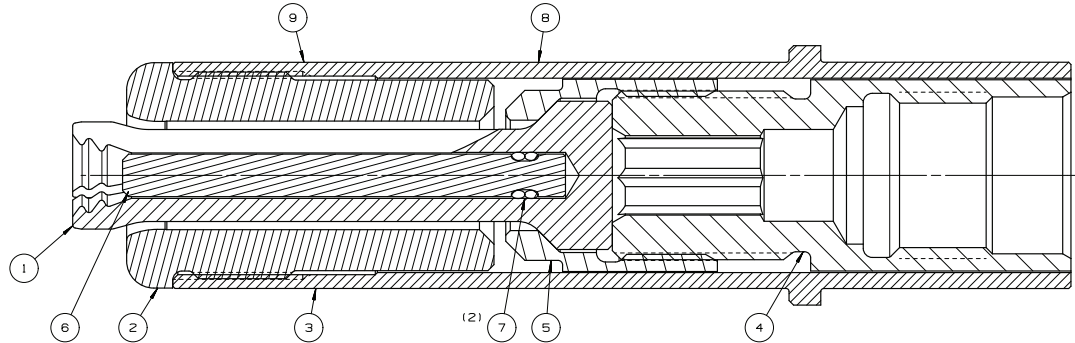


1. Insert Allen wrench into back of piston
2. Thread puller on piston, tighten with wrench
3. Lubricate puller with anti-sieze or equivalent and slide anvil/anvil holder over puller and seat on head
4. Slide retaining nut over end, thread onto head and tighten

Nose Assembly Details

99-7932

(For 1/4" BobTail with 244BT tool)

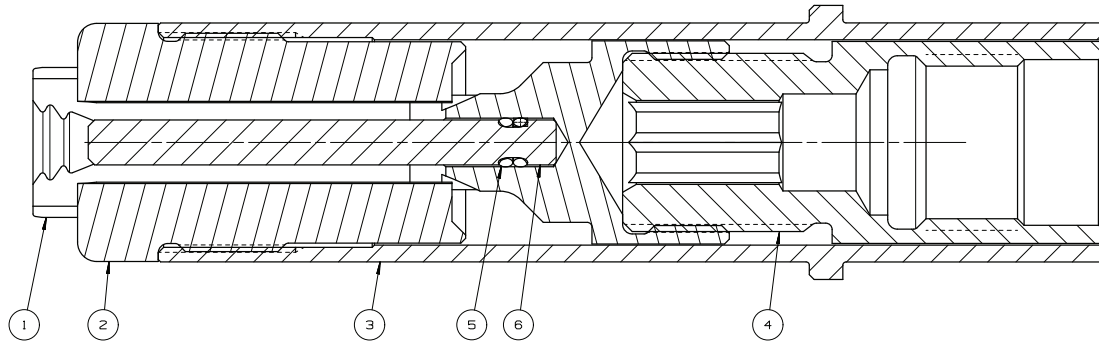


590513	1	PINCH POINT STICKER	9
590273	1	STICKER, WARNING, MOVING PARTS	8
508529	2	O-RING .094 ID X .032 CS	7
130320	1	LIMIT ROD, PULLER, -.08 BT	6
130319	1	PULLER CAP, -.08 BT	5
124360	1	EXTENSION, SPINDLE	4
129113	1	HOLDER, ANVIL, 244BT	3
129112	1	ANVIL, 244BT, -.08 BT	2
130318	1	PULLER, 244BT, .08 BT	1
PART NO.	QTY	DESCRIPTION	ITEM

Nose Assembly Details

99-7932CC

(For 1/4" BobTail with 244BT tool)

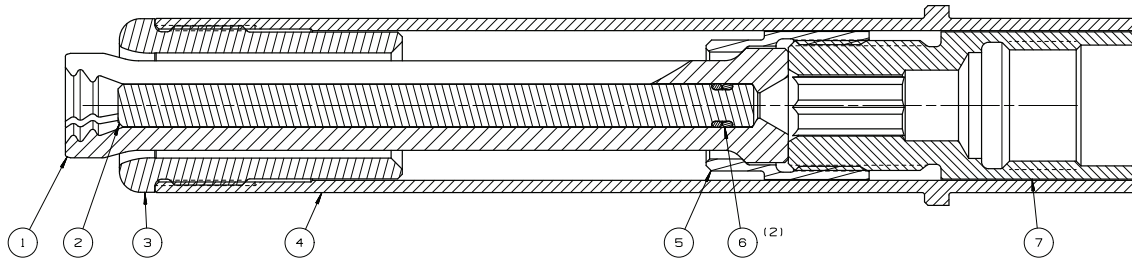


130320	1	LIMIT ROD, PULLER, -.08 BT	6
508529	2	O-RING	5
124360	1	SPINDLE EXTENSION	4
129113	1	ANVIL HOLDER	3
129747	1	ANVIL, SPLITTER 1/4"	2
129748	1	PULLER, SPLITTER 1/4"	1
PART NO.	QTY	DESCRIPTION	ITEM

Nose Assembly Details

99-7933

(For 5/16" BobTail with 244BT tool)



590513	1	PINCH POINT STICKER	9
590273	1	STICKER-WARNING	8
124360	1	EXTENSION, SPINDLE, 352T	7
508818	2	O-RING .12 ID X .031 CS	6
130711	1	PULLER CAP -10 BT	5
130713	1	HOLDER, ANVIL	4
130709	1	ANVIL, 244BT, -10 BT	3
130253	1	LIMIT ROD, PULLER, -10 BT	2
130710	1	PULLER, 244BT, -10 BT	1
PART NO.	QTY	DESCRIPTION	ITEM

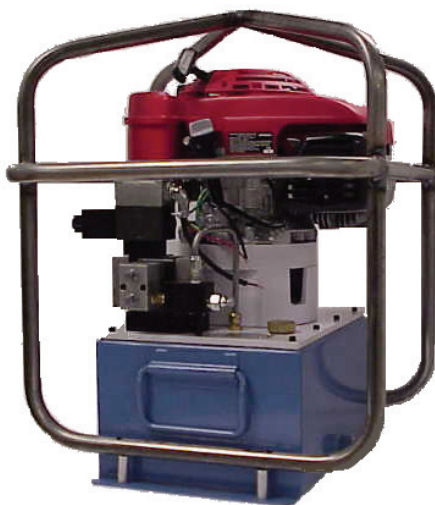
Inspection Checklist

244BT BobTail Installation Tool

Performed by:		
Date:		
Serial Number:		
Item#	Action	Completed
1	Add 3 drops of oil to air inlet hose	
2	Clean air line of dirt	
3	Check all air couplings for damage	
4	Check oil level in tool reservoir	
5	Remove and clean nose assembly	
6	Clean and lubricate throttle valve	
NOTES:		

Powerigs®

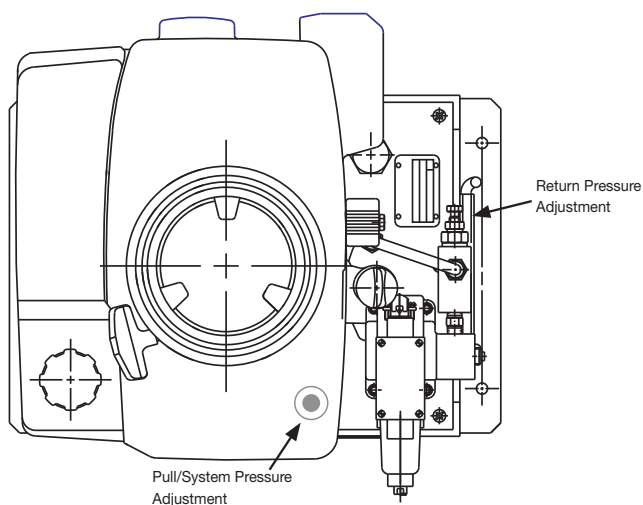
Model 913H/F - Specifications



Width:	21 inches (547 mm)
Length:	24 inches (629 mm)
Height:	27 inches (699 mm)
Weight: (without Hydraulic fluid)	122 pounds (54.7 kg)
Reservoir Capacity:	5 gallons (.02m3)
Flow Rate:	0.6 gallons per minute
Power Source:	Honda 5.5 hp, 4 cycle, single cylinder air cooled gasoline engine - point condenser ignition with 3 amp charging coil
Shipped Pressure:	Pull 5800 psi (39989kPa) Return 2800 psi (19305kPa)
Max Pressure:	Pull 8400 psi (57916kPa) Return 6000 psi (41369kPa)

Quick Reference Material

Adjusting Pressures on a 913H/F Powerig®



1. Connect gauge T-124833CE to hydraulic ports.
2. Connect switch to receptacle.
3. To check pull/system pressure, close valve on T-gauge and press switch. Read pressure on gauge.
4. To adjust pressure, loosen jam nut on pull/system pressure valve and turn knob clockwise to increase pressure and counterclockwise to decrease pressure.
5. To check return pressure, open valve on T-gauge. Then press and release switch. Slowly close valve while reading pressure gauge. The maximum pressure reading before the pump turns off is the return pressure.
6. To adjust return pressure, loosen jam nut on return pressure switch and turn screw clockwise to increase pressure and counterclockwise to decrease pressure.

Powerigs

Model 940 - Specifications

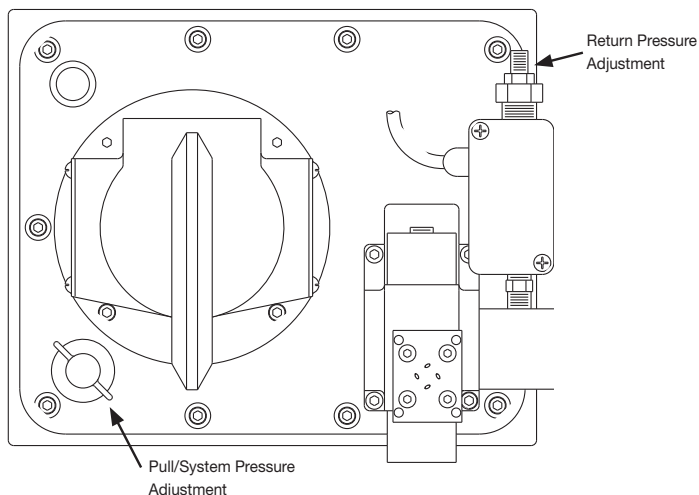


CSA CERTIFIED

Width:	16.1 inches (40.9 cm)
Length:	13.9 inches (35.4 cm)
Height:	18.5 inches (47 cm)
Dry Weight:	66 pounds (30 kg)
Reservoir Capacity:	2.6 gallons (9.8 liters)
Flow Rate:	0.3 gallons per minute
Motor:	12000 RPM, 1-1/8 HP, 25 amps, nominal
Pump:	2 stage, gear-piston type
Electrical System:	115VAC (25A), 50/60hz, single phase
Control System:	Solenoid operated directional valve, 24V
Shipped Pressure:	Pull 5800 psi (39989kPa) Return 2800 psi (19305kPa)
Max Pressure:	Pull 8400 psi (57916kPa) Return 6000 psi (41369kPa)

Quick Reference Material

Adjusting Pressures on a 940 Powerig



1. Connect gauge T-124833CE to hydraulic ports.
2. Connect switch to receptacle.
3. To check pull/system pressure, close valve on T-gauge and press switch. Read pressure on gauge.
4. To adjust pressure, loosen jam nut on pull/system pressure valve and turn knob clockwise to increase pressure and counterclockwise to decrease pressure.
5. To check return pressure, open valve on T-gauge. Then press and release switch. Slowly close valve while reading pressure gauge. The maximum pressure reading before the pump turns off is the return pressure.
6. To adjust return pressure, loosen jam nut on return pressure switch and turn screw clockwise to increase pressure and counterclockwise to decrease pressure.

Maintenance Schedule for Huck 913F Powerig® Hydraulic Power Unit (page 1 of 3)

SERVICE PERIOD	ACTION	BEFORE EA USE	AFTER 1ST 20 HRS	EVERY 50 HRS	EVERY 100 HRS	EVERY 200 HRS
Engine Oil	Check	X				
	Change		X (3)		X (1) (3)	
Engine Air Cleaner	Check	X			X	
	Clean			X (1)		
	Replace					X
Spark Plug	Check-Adjust				X	
	Replace					X
Engine Cooling Fins, Underside of Housing	Clean			X		
Combustion Chamber	Clean					X
Engine Run Speed	Check-Adjust					X (2)
Engine Valve Clearance	Check-Adjust					X (2)
Fuel Tank and Fuel Filter	Check					X (2)

Maintenance Schedule for Huck 913F Powerig® Hydraulic Power Unit (page 2 of 3)

SERVICE PERIOD	ACTION	BEFORE EA USE	AFTER 1ST 20 HRS	EVERY 50 HRS	EVERY 100 HRS	EVERY 200 HRS
Hydraulic Hose Fittings	Check-Clean	X				
Electrical Connections	Check	X				
Hydraulic Oil Level, Fill Cap Tight	Check	X				
Tighten Coverplate Screws	Check			X		
Verify Pull & Return Pressure, Tighten Jam Nuts on Adjustment Screws	Check			X		
Tighten Coverplate Screws	Check			X		
Tighten Screws on Engine	Check			X		
Hydraulic Oil Filter	Change				X (1) (4)	
Change Hydraulic Oil, Clean Tank	Change					X (1) (5)
Breather Vent Filter	Change					X (1) (6)
Directional Valve Seals, Poppets & Seats	Check					X (7)
External Relief Valve Stem	Check					X (8)

Maintenance Schedule for Huck 913F Powerig® Hydraulic Power Unit (page 3 of 3)

NOTES:

- (1) Service more frequently when used in dusty areas.
- (2) These items should be serviced by Honda engine service dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.
- (3) Engine oil: use 5W30 (0°F - 100°F) or 10W-30 (20°F - 120°F).
- (4) Use Huck 508693 Return Oil Filter
- (5) Hydraulic oil: use 32AW (0°F - 70°F ambient), 46AW (30°F - 120°F ambient); Mobil Invis HVI 26 hydraulic oil (-25°F - 12°F); or ATF (30°F - 90°F ambient)
- (6) Use Huck 508691 Breather Vent Filter
- (7) If poppets show wear, use Huck 129437 directional valve rebuild kit to replace poppets, seats and seals.
- (8) If valve stem shows wear, use Huck 508708 valve stem to replace.

Appendix

Extending BobTail Tooling Life

LONGER TOOL LIFE

- Clean out debris from puller teeth immediately.
- Suspend tool with a counterbalance, at a height convenient to the work.
- Ensure that there is no interference with the tool during swage.
- Clean out nose assembly every 1-2,000 drives.
- Lightly apply anti-seize compound on O.D. of puller after cleaning.
- Verify correct tool pulling force weekly, or whenever a tooling change is made.
- Ensure that the tool is correctly aligned with the fastener pin.

FOR BOBTAIL (Cycles Before Bolt Stripping or Tool Breakage)

Above average care:

10,000 - 14,000 puller cycles
60,000 - 80,000 anvil cycles

Average care:

6,000 - 10,000 puller cycles
40,000 - 60,000 anvil cycles

Below average care:

2,000 - 6,000 puller cycles
20,000 - 40,000 anvil cycles

FOR BOM (Cycles Before Bolt Stripping or Tool Breakage)

Above average care:

Maximum 40K anvil cycles

Average care:

Approximately 25K anvil cycles

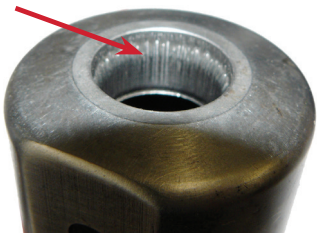
Below average care:

Approximately 10K anvil cycles

Identifying Worn Anvils

Nose assemblies, which are attached to the installation tool, are designed specifically to install HuckBolt fasteners. There are different versions of nose assemblies depending on fastener type and diameter.

Grooves or wear rings start to form on a worn anvil. These are issues that lead to poor fastener installations.



Unacceptable



Partial Swage

An incomplete swage is an indication of a worn anvil or incorrect nose assembly.

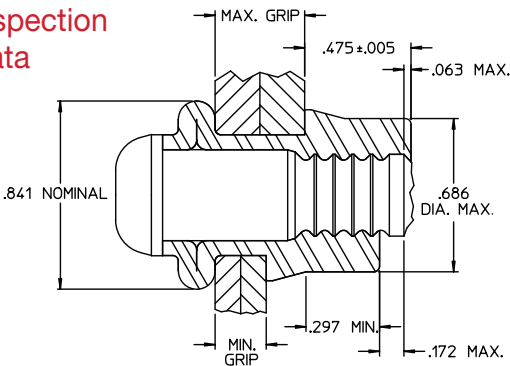
Acceptable



Full Swage

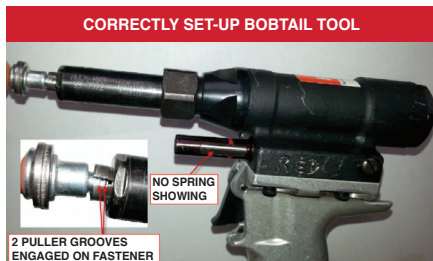
A properly installed fastener will resemble the above illustration.

Inspection Data



Operations

Reference for BobTail Tooling Conditions



Reference Information

Standard Huck tools for installation

POWERIGS®	
PART NUMBER	DESCRIPTION
913H	Huck Gas Powered Rig
913F	Huck Gas Powered Rig
HYDRAULIC INSTALLATION TOOLS	
PART NUMBER	DESCRIPTION
SF20	SWAGEFORWARD® Bobtail Tool
2624	Huck Hydraulic Installation Tool
2624PTD	Huck Hydraulic Installation Tool (Pass-Thru)
PNEUDRAULIC INSTALLATION TOOLS	
PART NUMBER	DESCRIPTION
244BT	Air/Hydraulic Installation Tool
A1100	Air/Hydraulic Installation Tool
TOOL NOSEPIECES	
PART NUMBER	DESCRIPTION
99-7880	12mm BobTail Nosepiece
99-7880X-3	12mm BobTail Nosepiece 3" Extended
99-7880CX	12mm BobTail Cutter Nosepiece
99BT-M12-CLAT	12mm BobTail Cutter Nosepiece 3" Extended
99BT-M12-CRAJ	12mm BobTail Stripped Pin Cutter (2624/PTD)
99-5104	1/2 inch BOM Nosepiece (2624)
99-5106	1/2 inch BOM Nosepiece (2624PTD)
99-7932	1/4 inch BobTail Nosepiece (244BT)
99-7932CC	1/4 inch BobTail Cutter Nosepiece (244BT)
99-7932L	1/4 inch BobTail Nosepiece (A1100)
99-7932LCC	1/4 inch BobTail Cutter Nosepiece (A1100)
99-7933	5/16 inch BobTail Nosepiece (244BT)s

Reference Information

Spare Parts

SPARE PARTS	
PART NUMBER	DESCRIPTION
115733	Ejector for 99-5104
124760	Release for 99-5104
506455	O Ring for 99-5104
502263	Retaining Ring for 99-5104
120653	2624 Gland Assembly
120361	SF20/2624 Trigger Assembly
131040	SF20/2624PTD/2624 Trigger Assembly
507396	O Ring 244BT Trigger
A1100KIT	A1100 Service Kit
244BTKIT	244BT Service Kit
SF20KIT	SF20 Service Kit

The Huck Dictionary

Anvil – The part of the nose that swages the collar.

Capacity – The amount of pulling force the tool can generate.

Collet – The component that holds the chuck jaws to the tool piston.

Concentric Tool – This type of tool has a nose connection that is concentric or “inline” with the hydraulic piston. This is found on both hydraulic and pneudraulic tools.

Eccentric Tool – This type of tool has a nose connection that is eccentric or “offset” from the hydraulic piston. This is found on both hydraulic and pneudraulic tools.

External Relief Valve – This valve is used to control the pull pressure and will allow the pull pressure to be lower than the return pressure at the tool. The valve is installed between the hydraulic tool and the Powerig on the pull side.

Fill and Bleed – the act of filling pneudraulic tools with oil and bleeding out any trapped air. While doing this, the tool piston is returned to the full starting position to gain as much stroke as possible. This will require special tools that are included with every new pneudraulic tool.

Hose Kits – These kits have the necessary hoses, cables and connectors to join the hydraulic tool to the Powerig.

Hydraulic Tool – This is a tool that runs on high pressure hydraulic fluid, no air required.

Jaws or Chuck Jaws – The part of the nose that grips the pin of the fastener.

The Huck Dictionary (continued)

“L” Type tools and noses – These types of tools and noses will typically have a “L” at the end of the part number. Tools will have a longer piston with threads that mate with the collet of the nose. Eliminating the collet extension provides a more durable connection between the tool and nose.

Non-Self Releasing Noses – This type of nose will not allow the fastener to be removed once it is inserted. There is a slight amount of resistance to inserting the pin into the jaws of the nose.

Piston Drift – Loss of stroke in pneudraulic tools.

Pneudraulic Tool – This is a tool that is powered by compressed air and has a hydraulic intensifier. This type of tool is also commonly called a pneumatic tool.

Positive-Ejecting Noses – A nose assembly that has the ability to forcibly eject the swaged collar from the anvil. These types of noses are preferred and are used on positive ejection types of tools.

Positive-Ejection Tool – This type of tool has pressurized hydraulic fluid pushing the piston in both directions. This type of tool is used when force is required to eject an anvil off of a collar.

Powerig® – The hydraulic pump that powers hydraulic tools.

Pull and Return Pressures – The two different pressure settings on the hydraulic pump for the tool fastener combination. The pull pressure controls the swage force and the return pressure controls the ejection force. Each have their own setting with the pull pressure needing to be set at least 500 psi above the return pressure.

The Huck Dictionary (continued)

Puller – The BobTail® equivalent of a Jaw.

Self-Ejecting Nose/Anvil – A nose assembly or anvil with a tapered geometry that allows the collar to be ejected by the force of pinbreak. These types of noses are not preferred and are typically used on spring return tools.

Self-Releasing Noses – This type of nose will allow the fastener to be removed from the nose assembly without installation or pinbreak, making it easier to insert the fastener into the nose.

Spring Return Tool – This type of tool has a spring that returns the hydraulic piston to its starting position. This type of tool is typically used for blind fasteners and two piece fasteners with self ejecting anvils/noses.

Stroke – The amount of piston travel in the tool.

Swage – The act of reducing the collar in diameter and changing its shape.

Swage Gauge – Either a ring or flat type gauge used to inspect the swaged collar.

“T” Gauge – this is the gauge used to set the pull and return pressures on the Powerig.

Thimble – The Huck-Spin® equivalent of a Jaw.

Unitized Jaws – A jaw set that is permanently attached to a rubber tube.



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[YouTube.com/HFSIndustrial](https://www.youtube.com/HFSIndustrial)

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