

ARCONIC

Instruction Manual

Hydraulic Collar Cutter Models

516, 520, 524, 528, 532, 536, M524



HUCK IS FOREVER.™

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HK269






CONTENTS


EC Declaration of Conformity	2
Safety	4-5
Description	6
Specifications	6
Principle of Operation	7
Checking Hydraulic Pressures	7
Preparation for Use	8
Operating Instructions	9
Maintenance and Repair	10
Disassembly and Assembly	11-13
Assembly Drawing with Part Number 516 - 536	14
Assembly Drawing with Part Number M524	15
Troubleshooting	16
Kits and Accessories	17





Safety Instructions

GLOSSARY OF TERMS AND SYMBOLS:

 - Product complies with requirements set forth by the relevant European directives.

 - Read manual prior to using this equipment.

 - Eye protection is required while using this equipment.

 - Hearing protection is required while using this equipment.

Notes: are reminders of required procedures.

Bold, Italic type, and underline: emphasize a specific instruction.

 **WARNINGS: Must be understood to avoid severe personal injury.**

 **CAUTIONS: Show conditions that will damage equipment or structure.**

I. General safety rules:

1. A half hour long hands-on training session with qualified personnel is recommended before using Huck equipment.
2. Huck equipment must be maintained in a safe working condition at all times. Tools and hoses should be inspected at the beginning of each shift/day for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.
3. For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the assembly power tool. Failure to do so can result in serious bodily injury.
4. Only qualified and trained operators should install, adjust or use the assembly power tool.
5. Do not modify this assembly power tool. This can reduce effectiveness of safety measures and increase operator risk.
6. Do not discard safety instructions; give them to the operator.
7. Do not use assembly power tool if it has been damaged.
8. Tools shall be inspected periodically to verify all ratings and markings required, and listed in the manual, are legibly marked on the tool. The employer/operator shall contact the manufacturer to obtain replacement marking labels when necessary. Refer to assembly drawing and parts list for replacement.
9. Tool is only to be used as stated in this manual. Any other use is prohibited.
10. Read MSDS Specifications before servicing the tool. MSDS specifications are available from the product manufacturer or your Huck representative.
11. Only genuine Huck parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
12. Never remove any safety guards or pintail deflectors.
13. Never install a fastener in free air. Personal injury from fastener ejecting may occur.
14. Where applicable, always clear spent pintail out of nose assembly before installing the next fastener.

15. Check clearance between trigger and work piece to ensure there is no pinch point when tool is activated. Remote triggers are available for hydraulic tooling if pinch point is unavoidable.
16. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle or to bend or pry the tool. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and preventing an accident which may cause severe personal injury.
17. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
18. Tools with ejector rods should never be cycled with out nose assembly installed.
19. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet for correct positioning.

II. Projectile hazards:

1. Risk of whipping compressed air hose if tool is pneumatic or pneumatic.
2. Disconnect the assembly power tool from energy source when changing inserted tools or accessories.
3. Be aware that failure of the workpiece, accessories, or the inserted tool itself can generate high velocity projectiles.
4. Always wear impact resistant eye protection during tool operation. The grade of protection required should be assessed for each use.
5. The risk of others should also be assessed at this time.
6. Ensure that the workpiece is securely fixed.
7. Check that the means of protection from ejection of fastener or pintail is in place and operative.
8. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.

III. Operating hazards:

1. Use of tool can expose the operator's hands to hazards including: crushing, impacts, cuts, abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly and be ready to counteract normal or sudden movements with both hands available.
4. Maintain a balanced body position and secure footing.
5. Release trigger or stop start device in case of interruption of energy supply.
6. Use only fluids and lubricants recommended by the manufacturer.
7. Avoid unsuitable postures, as it is likely for these not to allow counteracting of normal or unexpected tool movement.
8. If the assembly power tool is fixed to a suspension device, make sure that fixation is secure.
9. Beware of the risk of crushing or pinching if nose equipment is not fitted.

Continued on next page...



Safety Instructions continued

IV. Repetitive motion hazards:

1. When using assembly power tool, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
2. When using tool, the operator should adopt a comfortable posture while maintaining a secure footing and avoid awkward or off balanced postures.
3. The operator should change posture during extended tasks to help avoid discomfort and fatigue.
4. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warnings should not be ignored. The operator should tell the employer and consult a qualified health professional.

V. Accessories hazards:

1. Disconnect tool from energy supply before changing inserted tool or accessory.
2. Use only sizes and types of accessories and consumables that are recommended. Do not use other types or sizes of accessories or consumables.

VI. Workplace hazards:

1. Be aware of slippery surfaces caused by use of the tool and of trip hazards caused by the air line or hydraulic hose.
2. Proceed with caution while in unfamiliar surroundings; there could be hidden hazards such as electricity or other utility lines.
3. The assembly power tool is not intended for use in potential explosive environments.
4. Tool is not insulated against contact with electrical power.
5. Ensure there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.

VII. Noise hazards:

1. Exposure to high noise levels can cause permanent, disabling hearing loss and other problems such as tinnitus, therefore risk assessment and the implementation of proper controls is essential.
2. Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpiece from 'ringing'.
3. Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
4. Operate and maintain tool as recommended in the instruction handbook to prevent an unnecessary increase in the noise level.
5. Select, maintain and replace the consumable / inserted tool as recommended to prevent an unnecessary increase in noise.
6. If the power tool has a silencer, always ensure that it is in place and in good working order when the tool is being operated.

VIII. Vibration hazards:

1. Exposure to vibration can cause disabling damage to the nerves and blood supply to the hands and arms.
2. Wear warm clothing when working in cold conditions and keep hands warm and dry.
3. If numbness, tingling, pain or whitening of the skin in the fingers or hands, stop using the tool, tell your employer and consult a physician.
4. Support the weight of the tool in a stand, tensioner or balancer in order to have a lighter grip on the tool.

X. Hydraulic tool safety instructions:



WARNINGS:

Do not exceed maximum pull or return settings on tool.

Be sure all hose connections are tight. All tool hoses must be connected.

1. Carry out a daily check for damaged or worn hoses or hydraulic connections and replace if necessary.
2. Wipe all couplers clean before connecting. Failure to do so can result in damage to the quick couplers and cause overheating.
3. Ensure that couplings are clean and correctly engaged before operation.
4. Use only clean oil and filling equipment.
5. Power units require a free flow of air for cooling purposes and should therefore be positioned in a well ventilated area free from hazardous fumes.
6. Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
7. Be sure all hose connections are tight.
8. Wipe all couplers clean before connecting. Failure to do so can result in damage to the quick couplers and cause overheating.



DESCRIPTION

Huck 500 series Collar Cutters are used to remove the collars from 1/2 through 1-1/8 installed HUCKBOLT® Fasteners. These Collar Cutters cut through the swaged collars. Hydraulic pressure is supplied by HUCK hydraulic Powerig®s at maximum of 5700 psi. Collar Cutters are accessories and use installation tool's operating switch and hose. An auxiliary switch and control cord is available separately and is used where a tool switch is not accessible.

SPECIFICATIONS

Power Source: Huck POWERIG Hydraulic Unit

Hose Kits: Use only genuine HUCK Hose Kits rated @ 10,000 psi working pressure.

Max Operating Temp: 125°F (51.7°C)

Max Flow Rate: 2 gpm (7.6 l/m)

Max Inlet Pressure: 5700 psi, (393 bar)

Hydraulic Fluid: ATF meeting DEXRON III, DEXRON IV, MERCON, Allison C-4 or equivalent specifications.

Fire resistant hydraulic fluid may also be used, and is required to comply with OSHA regulation 1926.302 paragraph (d): "the fluid used in hydraulic power tools shall be fire resistant fluid approved under schedule 30 of the US Bureau of Mines, Department of Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed."

MODEL NO.	COLLAR REMOVED INCHES (mm)	LENGTH INCHES (mm)	WIDTH INCHES (mm)	HEIGHT INCHES (mm)	WEIGHT
516	1/2	6.60 (168)	3.40 (86)	4.20 (107)	6.50 lbs 2.9 kg
520	5/8	6.80 (173)	3.40 (86)	4.20 (107)	6.75 lbs 3.1 kg
524	3/4	7.50 (191)	3.75 (95)	4.50 (114)	8.75 lbs 4.0 kg
528	7/8	8.00 (203)	4.00 (102)	4.80 (122)	10.75 lbs 4.9 kg
532	1	9.40 (239)	4.25 (108)	5.50 (140)	14.25 lbs 6.5 kg
536	1-1/8	9.40 (239)	4.25 (108)	5.50 (140)	14.25 lbs 6.5 kg



PRINCIPLE OF OPERATION



WARNING: Huck recommends that only Huck Powerig Hydraulic Units be used as a power source for Huck installation equipment. Hydraulic power units that deliver high pressure for both PULL and RETURN, AND ARE NOT EQUIPPED WITH RELIEF VALVES ARE SPECIFICALLY NOT RECOMMENDED AND MAY BE DANGEROUS.

The PULL Pressure hose of an installation tool is connected to a Collar Cutter. Cutting stroke is controlled by installation tool switch or an auxiliary switch. When switch is depressed, a solenoid-operated valve in the Powerig directs pressurized hydraulic fluid through hose and against Cutter Piston. Piston with Blade moves forward. When Cutter is positioned on swaged collar, moving Blade presses collar against stationary Blade. Cutting begins and continues until Piston stroke

is completed. Opposing force of Blades cuts Collar on opposite sides.

When cutting is completed, switch is released.

Solenoid is de-energized, and valve releases pressure from Piston and Blade. Powerig idling valve diverts hydraulic fluid to reservoir. Return Spring moves Piston to rear of Cylinder, and Blades are opened. The Cutter is removed from cut collar and is ready to cut next swaged collar.

CHECKING HYDRAULIC PRESSURES



WARNING: Huck recommends that only Huck POWERIG® Hydraulic Units be used as a power source for Huck Installation Equipment. Hydraulic power units that deliver high pressure for both PULL and RETURN, AND ARE NOT EQUIPPED WITH RELIEF VALVES ARE SPECIFICALLY NOT RECOMMENDED, AND MAY BE DANGEROUS.

Conditions that require checking and adjusting output pressures:

1. If tool with higher pressure has been used.
2. When changing collar cutter size.
3. When changing tools, if pressure requirements differ.
4. First time startup.
5. After overhauling unit.
6. When troubleshooting.



WARNING: Correct PULL and RETURN pressures are required for operator's safety and for Collar Cutter's function. Pressure gauges T-124833 and T-124833CE are available for checking pressures, see SPECIFICATIONS section and applicable gauge instruction manual.



WARNING: For adjusting the pressure, see the applicable POWERIG® instruction manual. Neglecting to verify pressures may lead to catastrophic failure of hoses, tool or other part of system. This could cause severe or fatal injury to anyone nearby.

Preparation for checking pressures:

Prime and bleed hydraulic unit per the applicable POWERIG® instruction manual.



WARNING: When hydraulic unit is running, be sure to connect tool's hoses to unit before connecting tool's control cord to unit. If a malfunctioning cord switch is connected first, tool may begin to cycle unexpectedly. An accidentally cycling tool could severely injure a hand.

When disconnecting hoses, switch control cord *must* be disconnected first, before disconnecting hoses.



PREPARATION FOR USE

WARNINGS:
Read full manual before using tool.

A half-hour training session with qualified personnel is recommended before using Huck equipment.

When operating Huck installation equipment, always wear approved eye protection.

Be sure there is adequate clearance for the operator's hands before proceeding.

CAUTION: Do not let disconnected hoses and couplers contact a dirty floor. Keep harmful material out of hydraulic fluid. Dirt in hydraulic fluid causes valve failure in Tool and in POWERIG Hydraulic Unit.

CAUTION: Do not use TEFLON®* tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Slic-Tite is available in stick form as Huck P/N 503237.)

Rub Slic-Tite®* with PTFE thread compound, or equivalent, on pipe plug threads and quick connect fitting.

1. Use Huck POWERIG Hydraulic Unit, or equivalent, that has been prepared for operation per instruction manual. Check both PULL and RETURN pressures and, if required, adjust to pressures given in SPECIFICATIONS section of this manual.
2. First, turn hydraulic unit to OFF. Then disconnect power supply from hydraulic unit. Disconnect trigger control system from hydraulic unit.
3. Connect PULL pressure hose, with coupler nipple, into Cutter. Use only with HUCK supplied hoses rated at 10,000 psi or greater. Check trigger assembly for apparent damage or wear. If required, adjust position of trigger assembly on return pressure hose. Connect trigger

WARNING: Correct PULL and RETURN pressures are required for operator's safety and for Installation Tool's function. Gauge Set-Up, T-124833 and T-124833CE, is available for checking pressures. See Tool SPECIFICATIONS and Gauge Instruction Manual. Failure to verify pressures may result in severe personal injury.

WARNING: Be sure to connect Tool's hydraulic hoses to POWERIG Hydraulic Unit before connecting Tool's switch control cord to unit. If not connected in this order, severe personal injury may occur.

WARNING: RETURN pressure port on Powerig must be plugged with a steel 3/8-18 NPTF (HUCK Part No. 502375) pipe plug to prevent hydraulic fluid from being discharged.

control system to hydraulic unit. If auxiliary switch and control cord is used, installation tool is not required to actuate powerig. With auxiliary switch and control cord, the tool hose alone, or an equivalent hose, may be coupled to cutter. The RETURN pressure port must be plugged with a steel pipe plug HUCK Part No. 502375 (3/8-18 NPTF).

4. Connect tool switch cord to Powerig cord, or connect auxiliary switch cord to powerig cord.
5. Turn hydraulic unit to ON. Depress and release switch a few times to cycle tool and to circulate hydraulic fluid. Observe action of Cutter and check for fluid leaks.

* Slic-Tite is a registered trademark of LA-CO Industries, Inc.

* TEFLON is a registered trademark of DuPont Corp.



OPERATING INSTRUCTIONS

For safe operation. Please read completely

General

Operators should receive training from qualified personnel.



WARNINGS:

- To avoid severe personal injury: **Wear approved eye and ear protection.**
- Be sure of adequate clearance for Operator's hands before proceeding with fastener installation.
- Cutters are not generally insulated for coming into contact with electric power sources.
- Stored gas or fluid energy can pose a hazard.
- There is a risk when using cutters of large dimensions, due to the larger opening of cutting end.
- Cutter shall not be operated if directed toward the operator or any person.
- Beware of ejection of cutting material or chips; turn head in each operation to avoid exposure.
- Working on brittle material can cause harmful splinter.
- Do not bend cutter to free if stuck.

To remove installed HUCKBOLT® fastener:

1. Place Collar Cutter over swaged collar. Hold bottom flat against sheet surface.



CAUTION: Tool must be centered on collar to assure proper cutting action.

2. Depress installation tool switch or auxiliary switch. The moving blade cuts through side of collar as stationary blade is pulled into, and simultaneously cuts, opposite side.
3. Release switch when cut is completed. Return spring pushes the piston back to starting position, and causes blades to open.
4. Cutter can now be removed from cut collar, and cutting cycle repeated on next swaged collar.



WARNING: Cutter must be disconnected prior to clearing collar segments.



CAUTIONS: Check Cutter for collar segments after each stroke. Segments not removed from Cutter will cause damage to Cutter and to fastened structure.



MAINTENANCE



CAUTIONS:

- Consult MSDS before servicing tool.
- Keep dirt and other material out of hydraulic system.
- Separated parts must be kept away from dirty work surfaces.
- Dirt/debris in hydraulic fluid causes failure in

Good Service Practices

The efficiency and life of any installation or removal tool depends upon proper maintenance and good service practices. Tools should be serviced by personnel who are thoroughly familiar with them and how they operate.

A clean well lighted area should be available for servicing the tool. Special care must be taken to prevent contamination of hydraulic systems.

All parts must be handled carefully and examined for damage or wear. Perishable parts such as o-rings and seals should be kept on hand for replacement whenever tool is disassembled.

See SPECIFICATIONS for fluid type. Dispose of fluid in accordance with local environmental regulations. Recycle steel, aluminum, and plastic parts in accordance with local lawful and safe practices.



CAUTION: Always replace seals, wipers, and back-up rings when tool is disassembled for any reason.



CAUTION: Do not use TEFLON[®] tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Slic-Tite is available in stick form as Huck P/N 503237.)

Components should be disassembled and assembled in a straight line without bending, cocking or undue force.

Disassembly and assembly procedures outlined in this manual should be followed. Appropriate hand tools and soft materials to protect tools must be available. Only standard hand tools are required. A half inch brass drift, wood block and a vise with soft jaws will prevent damaging tool.

Preventive Maintenance

Refer to the applicable section for ASSEMBLY and DISASSEMBLY. For supplementary information refer to TROUBLESHOOTING and illustrations.

With proper care, the cutter will remove 100 collars before it may be necessary to replace the blades. The estimated life of the Collar Cutter is 10,000 cycles or 5 years, depending on service conditions.

System Inspection

Operating efficiency of the cutter is directly related to the performance of the complete system, including the cutter, hydraulic hoses, trigger assembly and the POWERIG[®] Hydraulic Unit. Therefore, an effective preventive maintenance program includes scheduled inspections of the system to detect and correct minor defects.

1. Inspect cutter for external damage.
2. Verify that hoses, fittings and trigger connections are secure.
3. Inspect hydraulic hoses for signs of damage. Replace if required.
4. Inspect cutter, hoses and POWERIG[®] during operation to detect abnormal heating, leaks or vibration.

POWERIG[®] Hydraulic Unit Maintenance

Hydraulic fluid should have a maximum contamination level of ISO CODE 18/15 or SAE LEVEL 6. Portable filtration on smaller powerigs and maintaining filters on larger powerigs is recommended. Maintenance and repair instructions are in applicable POWERIG Hydraulic Unit instruction manuals.

Cutter Maintenance

At regular intervals, depending upon use, replace all seals in the cutter. Spare seals and parts should be kept on hand. Inspect cylinder bore and piston for scored surfaces, excessive wear or damage, and replace as necessary.

Notes and Specifications for Standard Parts

All part numbers shown are available from Huck. The 500000 series numbers are standard parts which can generally be purchased locally.

Needle Valve Adjustment

A needle valve has been designed into the hydraulic cylinder of some of the cutters. The adjustment provides for the proper piston RETURN stroke when using various hydraulic units and hose combinations. Tool is shipped with the valve set in the closed position.

Needle Valve Adjustment for the 940 POWERIG[®] Hydraulic Unit: Turn needle valve clockwise to the closed position.

Needle Valve Adjustment for the 918 POWERIG[®] Hydraulic Unit:

1. Close needle valve clockwise. Depress trigger until piston stops forward.
2. Open needle valve by turning slightly counterclockwise. Jog or activate switch. If valve is correctly adjusted, piston will return to rear and pump shuts off. Repeat procedure until cutter cycles normally.
3. If normal cutter operation cannot be attained, close needle valve completely and start over at 1. Repeat until requirements are met.

Needle Valve Adjustment Trouble-shooting:

Note: A normal piston cycle is when the piston goes fully forward and fully back with one actuation of the switch.

- Q.** Piston partially returns and pump shuts off.
A. Needle valve not open enough.
- Q.** Piston partially or fully returns and pump will not shut off.
A. Needle valve is open too far.

* Slic-Tite is a registered trademark of LA-CO Industries, Inc.

* TEFLON is a registered trademark of DuPont Corp.



DISASSEMBLY AND ASSEMBLY

General

During disassembly and assembly, take the following precautions to avoid damaging tool or components:

- (a) Always work on a clean surface.
- (b) Use relatively soft materials, such as brass, aluminum or wood, to protect tool when applying pressure.
- (c) Apply a continuous strong pressure, rather than sharp blows, to disassemble or assemble a component. An arbor press provides steady pressure to press a component in or out.
- (d) Never continue to force a component if it “hangs up” due to misalignment. Reverse the procedure to correct misalignment and start over.
- (e) Smear Lubriplate 130AA ,TM or equivalent, on O-rings and mating surfaces to aid assembly and prevent damage to O-rings. (Lubriplate is manufactured by Fiske Brothers Refining Co. and is available in most localities. A handy tube of Lubriplate 130AA is available from Huck as part number 502723).

Disassembly and Assembly Tools

Standard hand tools such as wrenches, drifts, copper or lead hammers, screwdrivers, socket screw hexagon keys, long forceps (tweezers), etc. Which can be purchased at most local supply firms are required. If possible, an arbor press and vise with soft jaws should be available. Standard tools available from Huck are shown in Table 3.

This series of Collar Cutters is designed in two slightly varying configurations. In two smaller sizes, piston blade slides in from top of cylinder, and pin on side prevents blade rotation. Larger sizes have blade pushed into cylinder from bottom, and pin on top prevents rotation.

For component identification, refer to Assembly Drawings and Parts Lists.



DISASSEMBLY

The following procedure is for complete disassembly. Disassemble only those parts necessary. Check and replace damaged/worn components. **Always replace O-rings, wipers, and back-up rings of disassembled subassemblies.**

WARNING: Be sure to disconnect Tool's electrical control trigger system from POWERIG® Hydraulic Unit BEFORE disconnecting Tool's hydraulic hoses from unit. If not disconnected in this order before any maintenance or cleaning is done, severe personal injury may occur.

WARNING: Be sure Powerig is turned OFF before removing Cutter for cleaning or for replacing worn or damaged components.

1. Uncouple hydraulic hose at Cutter, and disconnect electrical control cord.
2. Remove Screw(s) (1) from Blade(s) (2). Remove blade from Cylinder Body (3).
3. Remove four Flat Head Cap Screws (12) from Cylinder Head (7), and lift out Keeper Plate (11).

WARNING: Hold Piston (17) or Cylinder Head (7) in Cylinder Body (3) when Retaining Ring (10) or Shoulder Screw (21) is removed. Return Spring (5) may cause either or both to eject from Cylinder.

4. Remove Retaining Ring (10) while observing the above WARNING.
5. Pull on hydraulic Coupler (14) to remove cylinder bead from cylinder. Unscrew Coupler and Pipe Nipple (13) from Cylinder Head.
6. On 516 and 520 Collar Cutters, pull assembled Piston (7) and Blade (6) from Cylinder. Lift Return Spring (5) out.
7. On 524 and 536 Cutters, remove Shoulder Screw (9) and Washer (8) while observing WARNING above. Remove Piston (15) and Spring (5).

8. Pull Piston Blade (6) from cylinder body.
516, 520, 524, 528, 532, 536:
Push Pin (4) through hole and into body.
M524:
Remove Screw (4).
9. Use a small diameter, dull-pointed rod to remove O-Rings and Back-up Rings from all components.



ASSEMBLY

Before assembling tool:

- (a) Clean components In mineral spirits or other solvent compatible With O-Ring seals.
- (b) Clean out O-Ring grooves.
- (c) Inspect components for scoring, excessive wear or damage.
- (d) Replace O-Rings and Back-up Rings. Be sure that relative positions of the O-Rings and Back-up Rings are as shown in Cutter assembly drawing.
- (e) Smear Lubriplate 130AA on O-Rings and mating surfaces to prevent damage to O-Rings and to aid assembly.

WARNING: Do not omit any seals during servicing, leaks will result and personal injury may occur.

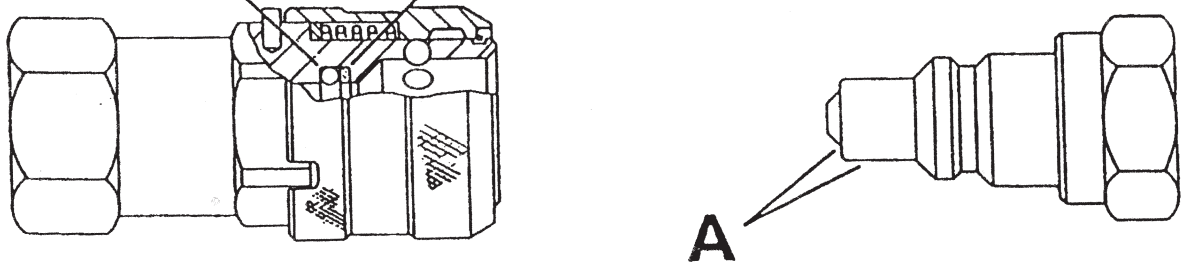
CAUTION: Do not use TEFLON tape.

WARNING: Tool must be fully assembled with all components included.

- 2. Drop Return Spring (5) into Cylinder Body (3). Align slot in blade with Pin (4) hole in Cylinder and push assembled Piston (15), including Back-up Rings and O-Rings (15a-15d) and blade into Cylinder.
- 3. Depending on which model is being assembled, install Pin (4) or Screw (4).
- 4. Attach Pipe Nipple (13) and hydraulic Coupler (14) to Cylinder Head (7).
- 5. Push assembled Cylinder Head (7), including Back-up Rings and O-Rings (7a & 7b), into Cylinder Body (3). While holding Cylinder Head in position, install Retaining Ring (10).
- 6. Install Keeper Plate (11) in Cylinder Head with four Flat Head Cap Screws (12). Tighten Screws to 75 in./lbs.
- 7. Hold Body Blade(s) (2) in Cylinder Body while installing Screw(s) (1). Tighten Screw(s) to 245 in./lbs.
- 8. Couple hydraulic hose to Cutter, and connect electrical control cord.

- 1. Fasten Piston Blade (6) to Piston (17) with Washer (8) and Shoulder Screw (9). Tighten screw to 390 in./lbs.

O-ring—P/N 504438 Back-up Ring—P/N 501102



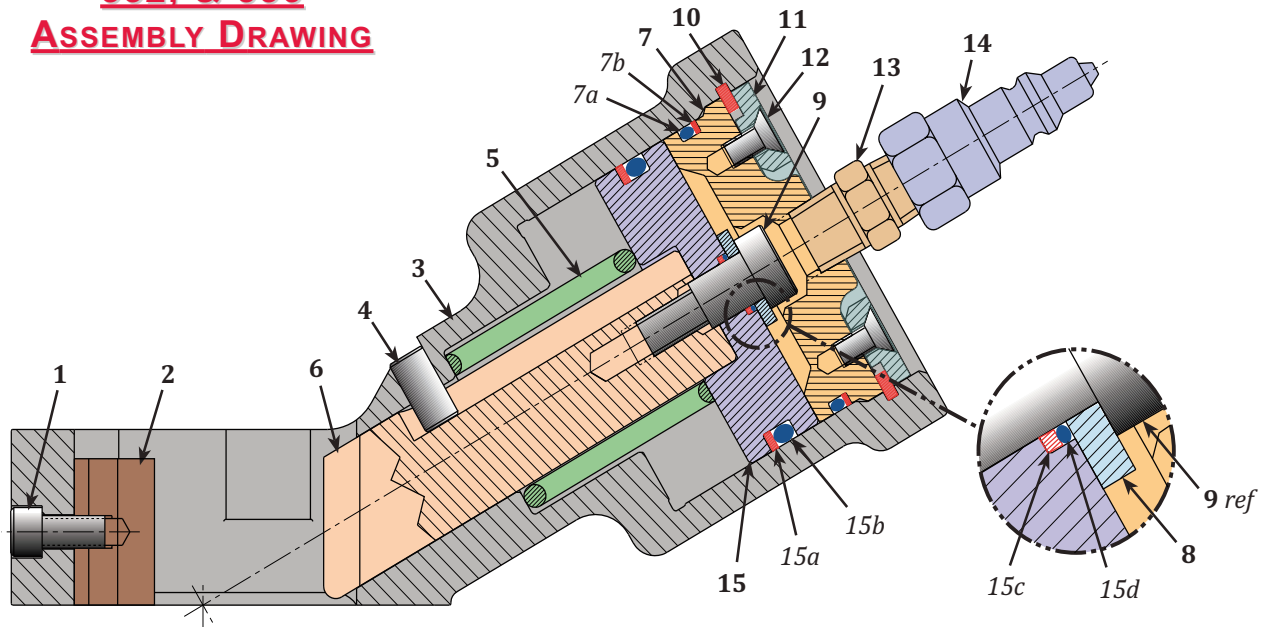
Use a fine India stone to remove any nicks or burrs from diameter A and leading edge, to prevent damage to O-ring.

Hydraulic Couplings



Figure AA

516, 520, 524, 528,
532, & 536
ASSEMBLY DRAWING



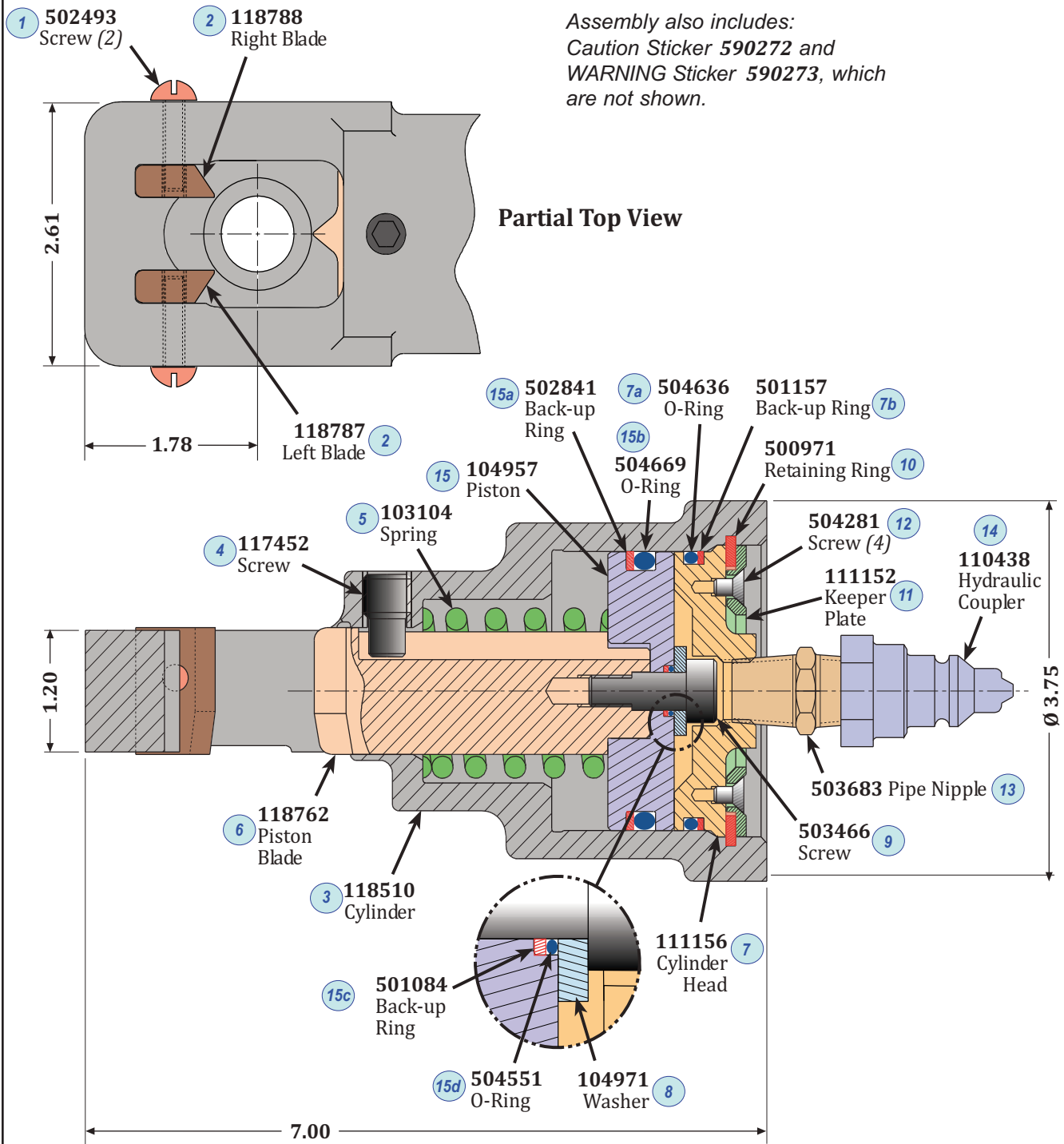
ITEM	DESCRIPTION	QTY	516	520	524	528	532	536
1	Cap Screw	1	500069	500069	500069	500077	500078	500077
2	Body Blade	1	105042	105042	105045	105051	105057	105057-1
3	Body Assembly	1	105017	105021	105025	105029	105033	105033-1
4	Guide Pin	1	503523	503523	503523	503532	503532	503532
5	Piston Return Spring	1	102693	102693	102693	102590	103104	103104
6	Piston Blade	1	105041	105041	104970	105050	105056	105056
7	Cylinder Head	1	111155	111155	111156	111157	111158	111158
7a	O-Ring	1	504634	504634	504636	504638	504639	504639
7b	Back-up Ring	1	501155	501155	501157	501159	501160	501160
8	Washer	1	104971	104971	104971	105052	105052	105052
9	Shoulder Screw	1	503466	503466	503466	503476	503476	503476
10	Retaining Ring	1	500967	500967	500971	502118	502120	502120
11	Keeper Plate	1	111151	111151	111152	111153	111154	111154
12	Flat Head Screw	4	504281	504281	504281	504287	504287	504287
13	Pipe Nipple	1	503683	503683	503683	503683	503683	503683
14	Hydraulic Coupler	1	110438	110438	110438	110438	110438	110438
15	Piston	1	105037	105037	104957	105046	105036	105036
15a	Back-up Ring	1	502855	502855	502841	502804	502938	502938
15b	O-Ring	1	504667	504667	504669	504671	504672	504672
15c	Back-up Ring	1	501084	501084	501084	501086	501086	501086
15d	O-Ring	1	504551	504551	504551	504553	504553	504553
16	Caution Sticker <i>(not shown)</i>	1	590272	590272	590272	590272	590272	590272
17	Warning Sticker <i>(not shown)</i>	1	590273	590273	590273	590273	590273	590273
18								



Figure BB

M524
ASSEMBLY DRAWING

Assembly also includes:
Caution Sticker 590272 and
WARNING Sticker 590273, which
are not shown.





TROUBLESHOOTING



Always check out the simplest possible cause of a malfunction first. For example, a switch turned off or a power cord not connected. Then proceed logically, eliminating each possible cause until the defective circuit or part is located. Where possible, substitute known good parts for suspected bad parts. Use a Troubleshooting Chart as an aid in locating and correcting it.

1. Cutter Fails to operate:

- (a) Inoperative Powerig - See Powerig Instruction Manual
- (b) Loose or disconnected control cord
- (c) Defective tool switch assembly or auxiliary switch assembly
- (d) Loose or faulty hydraulic hose coupling

2. Cutter blades do not completely cut through collar:

- (a) RETURN pressure hydraulic hose connected to cutter

3. Cutter leaks hydraulic fluid:

- (a) Depending on where the leak occurs - defective or worn O-Rings and/or loose hydraulic hose connection at cutter

4. Hydraulic Couplers leak fluid:

- (a) Defective or worn O-Ring in coupler body (See Hydraulic Couplings Figure in **ASSEMBLY** section.)

5. Hydraulic Fluid overheats:

- (a) Powerig not operating properly - Pump motor rotation reversed
- (b) Restriction in hydraulic line

6. Gutter operates erratically and does not cut collar quickly:

- (a) Low or erratic hydraulic fluid supply
- (b) Defective or excessively worn piston O-Ring in cutter
- (c) Excessive wear or scoring of sliding surfaces
- (d) Blades are dull or damaged

7. Cutter blades fail to open when switch is released:

- (a) Return spring is weak or broken



Back-up Rings

Part No.	Dash No.	Part No.	Dash No.
501084	12	501160	233
501086	14	502855	330
501102	111	502841	332
501155	228	502804	334
501157	230	502938	335
501159	232		

O-Rings*

Part No.	Dash No.	Part No.	Dash No.
504551	12	504639	233
504553	14	504667	330
504438	111	504669	332
504634	228	504671	334
504636	230	504672	335
504638	232		

* O-Ring material, with the exception of Part No. 504438 is 90 durometer Viton or equivalent. Part No. 504438 is 75 durometer Viton or equivalent.

Miscellaneous Parts

Part No.	Description
500069	Cap Screw 1/4-20 X 1/2
500077	Cap Screw 5/16-18 X 1/2
500078	Cap Screw 5/16-18 X 5/8
500967	Retaining Ring
500971	Retaining Ring
502118	Retaining Ring
502120	Retaining Ring
503683	Pipe Nipple 3/8 NPTF
503466	Shoulder Screw 3/8 dia X 1/2
503476	Shoulder Screw 1/2 dia X 5/8
503523	Pin
503532	Pin
504281	Flat Head Cap Screw 10-32 X 3/8
504287	Flat Head Cap Screw 1/4-20 X 1/2

Spare Parts Kits

TOOL	516-520	524	528	532-536
KIT Part No.	112124	112125	112126	112127
Description	Part No.			
Piston Return Spring	102693	102693	102590	103104
O-Ring	504634	504636	504638	504639
Back-up Ring	501155	501157	501159	501160
Back-up Ring	501084	501084	501086	501086
O-Ring	504551	504551	504553	504553
Back-up Ring	502855	502841	502804	502938
O-Ring	504667	504669	504671	504672

The quantity of spare parts that should be kept on hand varies with the number of tools in service. Spare Parts Kits containing perishable parts such as O-Rings and Back-up Rings should always be kept available to replace worn items.

Standard Service Tools

Part No.	Description
502296	Hex Key 3/16
502445	Hex Key 1/4
502294	Hex Key 1/8
502295	Hex Key 5/32
502859	Truarc Pliers 0500
502860	Truarc Pliers S6700

Also available are:

Auxiliary Electric Trigger Assembly	-	113056
Slic-Tite Stick	-	503237
Lubriplate 130A	-	502723
Never-Seez	-	505565

* Slic-Tite is a registered trademark of LA-CO Industries, Inc.

* Never-Seez is a registered trademark of Bostik, Inc.

* Lubriplate is a registered trademark of Lubriplate Lubricants Co.



Record your service notes here.



Limited Warranties

Limited Lifetime Warranty on BobTail® Tools:

Huck International, Inc. warrants to the original purchaser that its BobTail® installation tools manufactured after 12/1/2016 shall be free from defects in materials and workmanship for its **useful lifetime**. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Two Year Limited Warranty on Installation Tools:

Huck International, Inc. warrants that its installation tools and Powerigs® manufactured after 12/1/2016 shall be free from defects in materials and workmanship for a period of two years from date of purchase by the end user. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

90 Day Limited Warranty on Nose Assemblies and Accessories:

Huck International, Inc. warrants that its nose assemblies and accessories shall be free from defects in materials and workmanship for a period of 90 days from date of purchase by the end user. This warranty does not cover special clearance noses, or special order / non-standard product, or part failure due to normal wear, abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Useful lifetime is defined as the period over which the product is expected to last physically, up to the point when replacement is required due to either normal in-service wear, or as part of a complete overhaul. Determination is made on a case-by case basis upon return of parts to Huck International, Inc. for evaluation.

Tooling, Part(s) and Other Items not manufactured by Huck:

HUCK makes no warranty with respect to the tooling, part(s), or other items manufactured by third parties. HUCK expressly disclaims any warranty expressed or implied, as to the condition, design, operation, merchantability, or fitness for use of any tool, part(s), or other items thereof not manufactured by HUCK. HUCK shall not be liable for any loss or damage, directly or indirectly, arising from the use of such tooling, part(s), or other items or breach of warranty or for any claim for incidental or consequential damages.

Huck shall not be liable for any loss or damage resulting from delays or non-fulfillment of orders owing to strikes, fires, accidents, transportation companies or for any reason or reasons beyond the control of the Huck or its suppliers.

Huck Installation Equipment:

Huck International, Inc. reserves the right to make changes in specifications and design and to discontinue models without notice.

Huck Installation Equipment should be serviced by trained service technicians only.

Always give the serial number of the equipment when corresponding or ordering service parts.

Complete repair facilities are maintained by Huck International, Inc. Please contact one of the offices listed below.

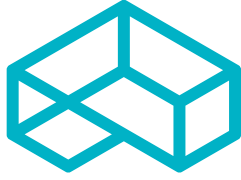
Eastern

One Corporate Drive Kingston, New York 12401-0250
Telephone (845) 331-7300 FAX (845) 334-7333

Outside USA and Canada

Contact your nearest Huck International location (see reverse).

In addition to the above repair facilities, there are Authorized Tool Service Centers (ATSC's) located throughout the United States. These service centers offer repair services, spare parts, Service Parts Kits, Service Tool Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck International location (see reverse) for the ATSC in your area.



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