Instruction Manual
Model 115570 and 115571

Makers of Huck®, Marson®, Recoil®
Brand Fasteners, Tools & Accessories

06-28-2004
Form HK801
SAFETY

This instruction manual must be read with particular attention to the following safety guidelines, by any person servicing or operating this tool.

1. Safety Glossary

   - Product complies with requirements set forth by the relevant European directives.
   - Read manual prior to using equipment.
   - Eye protection required while using this equipment.
   - Hearing protection required while using this equipment.

   WARNINGS - Must be understood to avoid severe personal injury.

   CAUTIONS - show conditions that will damage equipment and or structure.

   Notes - are reminders of required procedures.

   Bold, Italic type and underlining - emphasizes a specific instruction.

2. Huck equipment must be maintained in a safe working condition at all times and inspected on a regular basis for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.

3. Repairman and Operator must read manual prior to using equipment and understand any Warning and Caution stickers/labels supplied with equipment before connecting equipment to any primary power supply. As applicable, each of the sections in this manual have specific safety and other information.

4. See MSDS Specifications before servicing the tool. MSDS Specifications are available from you Huck representative or on-line at www.huck.com. Click on Installation Systems Division.

5. When repairing or operating Huck installation equipment, always wear approved eye protection. Where applicable, refer to ANSI Z87.1 - 1989

6. Disconnect primary power source before doing maintenance on Huck equipment.

7. If any equipment shows signs of damage, wear, or leakage, do not connect it to the primary power supply.

8. Make sure proper power source is used at all times.

9. Never remove any safety guards or pintail deflector.

10. Never install a fastener in free air. Personal injury from fastener ejecting may occur.

11. When using an offset nose always clear spent pintail out of nose assembly before installing the next fastener.

12. If there is a pinch point between trigger and work piece use remote trigger. (Remote triggers are available for all tooling).

13. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and in preventing an accident which may cause severe personal injury.

14. Never place hands between nose assembly and work piece.

15. Tools with ejector rods should never be cycled with out nose assembly installed.

16. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet of correct positioning.
Combination Valve and Adapter Plate for Models 917, 917-5 and 950 POWERIG® Hydraulic Unit.

Models 917 and 917-5 Combination Valve, P/N 110049, is no longer available and is replaced by Combination Valve and Adapter Kit, P/N 115570. Refer to 42-442 specifications for instructions to attach kit to hydraulic unit.

Model 950 Combination Valve, P/N 107759, is also no longer available, and is replaced by Combination Valve and Adapter Kit, P/N 115571. Refer to 42-443 specifications for instructions to attach kit to hydraulic unit.

Each combination valve contains a four-way solenoid operated directional valve, a pressure relief valve and an idler valve. The four-way valve, which is controlled by the tool trigger through a relay and solenoid, directs hydraulic fluid under pressure to the PULL or RETURN hoses connected to the Installation Tool or other equipment. The pressure relief valve is designed to protect the POWERIG® Hydraulic Unit and Installation Tools from excessive pressure during the return cycle. The idler valve is preset at the factory to provide 2800-3000 return pressure and approximately 200 psi idling pressure.

The high and low pressures should be checked as your tool model may require a different input/output pressure. Use Pressure Checking Gauge Set-up No. T-10280 — if valve adjustments are required see applicable POWERIG® Hydraulic Unit Instruction Manual and/or Instructions for T-10280 Pressure Gauge.

Combination Valve Kit
The new Combination Valve Kit includes:
1. Pull Pressure — pump to valve
2. Return pressure Adjuster — idler valve
3. Adapter plate
4. Solenoid
5. Pull pressure port (not shown)
6. Return pressure port
7. Pull pressure adjusting screw
8. Return flow to tank
9. Directional valve and relief valve
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<th>Description</th>
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<td>Lockwasher — for 5/16 screw (not shown)</td>
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<td>501236</td>
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<td>1</td>
<td>Combination Valve — A.C.</td>
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<td>120362</td>
<td>1</td>
<td>Combination Valve — D.C.</td>
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<td>Adapter—Anchor GFH-6UFS (not shown)</td>
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<td>Elbow—Flodar PF21-6</td>
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<td>Reducing Bushing, ¾ to ¾ — Flodar PF110-12-6</td>
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**Combination Valve Kit**
Instructions for Attaching New Combination Valve

A. Removing old valve:
   1. Disconnect power supply
   2. Remove hood
   3. Remove pressure hose(s) from combination valve. Cut return hose(s) next to valve fitting. Remove fitting. Remove hose clamp and cut hose remnant from fitting.
   4. Loosen two screws holding solenoid wires in electrical clamp on back of electrical box.
   5. Disconnect wires from block inside electrical box. Pull wires out of electrical box.
   6. Disconnect hoses from hydraulic unit. Unscrew swivel connectors from combination valve.
   7. Unscrew four socket head cap screws holding valve to bracket. Use hex ¼ hex key.

B. To install new valve:
   1. Attach valve mounted to adapter plate to bracket/bulkhead of hydraulic unit with washers and four socket head screws. Use ¼ hex key.
   2. Pull plastic sleeve off wires of old combination valve solenoid. Cut both wires approximately 5 inches from solenoid.
   3. Using connectors provided, connect control panel wires. Slide plastic sleeve over spliced wires and connect wires to block inside electrical box. See wiring diagram in applicable instruction manual.
   4. Coat hose fitting threads with a non-hardening TEFLON* thread compound such as Slic-tite. (Slic-tite is manufactured by Markal Co., and is available from Huck in stick form as P/N 503237). Do not use TEFLOM tape on hose fitting threads; pipe threads may cause tape to shred resulting in tool and hydraulic unit valves to malfunction. Attach pressure and return hoses to new valve(s).

*TEFLON is a trademark of E.I. duPont de Nemours & Co.

Note:
Prime and bleed hydraulic unit per applicable instruction manual.
CHECKING HYDRAULIC PRESSURES

To prevent serious fastening system malfunctions, check and adjust PULL and RETURN pressures of POWERIG® Hydraulic Unit. See hydraulic unit’s instruction manual for adjusting pressure settings - - see tool manual for pressures required. Check pressures when:
• Unit is being used for the first time.
• Any part of combination valve is repaired.
• Combination valve is replaced.
• Troubleshooting is to be performed.
• Tool is disconnected from unit and is reconnected.
• Tool being used is replaced with another tool.

WARNING
Excessive pressures may cause violent rupture of some part of the fastening system - - exploding components may cause severe or fatal injuries to anyone in the vicinity. If system does not rupture, continuous higher than normal pressure damages equipment.

PREPARATION FOR CHECKING PRESSURES:

Prime and bleed hydraulic unit per unit’s instruction manual.

WARNING
When hydraulic unit is running, be sure to connect tool’s hydraulic hoses to unit before connecting tool’s switch 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 CONNECTING HOSES, SWITCH MUST BE CONNECTED LAST.

It is just as important: WHEN DISCONNECTING HOSES, SWITCH MUST BE DISCONNECTED FIRST.

1. Disconnect hydraulic unit from primary power source.

2. Connect both quick-connects to hydraulic unit.

NOTE: When checking pressures of the two tool, Model 918, and three tool, Model 918-5, the pressures for each tool must be checked separately. Each pair(s) of unused PULL pressure and RETURN pressure ports must be connected together with one hydraulic (jumper) hose - - same hose connects PULL and RETURN of same valve. Tool(s) connected to unit can take the place of jumper hose(s).

3. Move Control Knob on gauge to OPEN position.

4. Connect hydraulic unit to power source.
Maintenance and Repair of Combination Valves

Combination valves should be returned to the nearest repair facility shown on the inside of the back cover of this manual if a major overhaul is necessary.

Minor overhaul includes cleaning and replacing seals, perishable parts and high wear components. Huck recommends only minor overhaul by the user. If a major overhaul is required, return the combination valve to:

Huck International, Inc.
85 Grand Street
Kingston, New York 12401-0250

Extra combination valve(s) should be kept on hand to use on POWERIG Hydraulic Unit while original valve is being overhauled or returned to factory for major overhaul.

Smear LUBRIPLATE 130AA, or hydraulic fluid, on O-rings and other components when reassembling combination valve. Follow Figure 11a and Figure 11b for proper position of all components.

WARNING
After overhauling combination valve(s), pull and return pressures must be checked. See CHECKING AND ADJUSTING POWERIG HYDRAULIC UNIT OUTPUT PRESSURES. Severe personal injury may occur if excessive pressure causes violent hose or installation equipment failure.

Checking and Adjusting POWERIG® Hydraulic Unit Output Pressures

To prevent malfunctions, check and adjust pull and return pressures of POWERIG® Hydraulic Unit — see T-10280 (earlier model) or T-124833 (latest model) PRESSURE GAUGE INSTRUCTION MANUAL for checking pressures. See ADJUSTING OUTPUT PRESSURES in this 918 manual for adjusting pressures.

Check pressures with either T-10280 or T-124833 gauges when:

- Unit is being used for the first time or has not been used for a month.
- Any part of combination valve is repaired.
- Combination valve is replaced.
- Troubleshooting is to be performed.
- Before any tool is connected.

WARNING
Excessive pressures may cause violent rupture of some part of the fastening system, even exploding components may cause severe or fatal injuries to anyone in the vicinity. If the system does not rupture, continuous higher than normal pressure may cause premature wear of equipment.
Preparations for Checking Pressures When Using T-10280 or T-124833:

If necessary, prime and bleed hydraulic unit. See PREPARATION FOR USE.

WARNING
When hydraulic unit is running, be sure to connect tool's hydraulic hoses to unit before connecting tool's switch control cord to unit. If a malfunctioning cord switch is connected first, tool may begin to cycle unexpectedly. An accidently cycling tool could severely injure a hand.
WHEN CONNECTING HOSES, SWITCH MUST BE CONNECTED LAST.
It is just as important:
WHEN DISCONNECTING HOSES, SWITCH MUST BE DISCONNECTED FIRST.

WARNING
Maximum PULL pressure is 8400 psi. Refer to specific tool instruction manual for PULL and RETURN pressures for specific Huck Installation Equipment. Severe personal injury may occur if excessive pressures cause violent failure of equipment.

The pressures for each tool must be checked separately. The pair(s) of unused PULL pressure and RETURN pressure ports must be connected together with one hydraulic (jumper) hose - - PULL connected to RETURN of same valve or tool.
NOTE: Tool(s) connected to unit can take the place of jumper hose(s).

1. Turn unit OFF and disconnect from primary power source.
   Connect coupler nipple (male) of gauge to PULL pressure coupler body (female) of hydraulic unit.

2. Connect coupler body (female) of gauge to RETURN pressure coupler nipple (male) of hydraulic unit.

3. Move control knob of T-10280 to the OPEN position, or turn needle valve of T-124833 all the way out.

4. Install an auxiliary Electric Switch and Control Cord Assembly, 113056, in control cord socket of tool ports being checked - - or use trigger of tool that is connected to ports being checked. See NOTE, at beginning of section. Fluid will be directed out PULL pressure when switch is depressed. Connect unit to primary power source and turn unit ON.
CHECKING OUTPUT PRESSURES WITH T-10280:

Caution
The following check must be completed quickly as sustained high pressure may cause premature wear on the unit.

1. Move control knob to PULL position. Depress auxiliary trigger switch and hold. Read PULL pressure on gauge - release trigger switch.

2. Move control knob to OPEN position.

3. **DEPRESS and RELEASE** auxiliary trigger switch to set unit's internal valve. Hydraulic fluid is directed out RETURN pressure port.

4. **SLOWLY** move control knob to RET position on gauge and read RETURN pressure on gauge - read RETURN pressure of 940, 940-220 and 942 when motor shuts off.

5. **IMMEDIATELY** return control knob to OPEN position.

WARNING
Disconnect power source from hydraulic unit. Accidental cycling of the hydraulic unit may cause severe injury when disconnecting couplings - fluid may spray unexpectedly.

6. Remove pressure gauge.
CHECKING OUTPUT PRESSURES WITH T-124833:

Caution:
The following check must be completed quickly as sustained high pressure may cause premature wear on the unit.

1. Close the valve (turn handle clockwise). Depress auxiliary trigger switch and hold. Read PULL pressure on right hand gauge - - release trigger switch.

2. Open the valve (turn handle counter-clockwise) a few turns.

3. DEPRESS and RELEASE auxiliary trigger switch to set unit's internal valve. Hydraulic fluid is directed out RETURN pressure port.

4. SLOWLY close the valve -- the pressure will rise, and then, drop sharply. Read RETURN pressure on left-hand gauge just before the pressure drops. Read RETURN pressure of 940 series just before motor turns off.

5. Open the valve.

WARNING
Disconnect hydraulic unit from power source.
Accidental cycling of the hydraulic unit may cause severe injury when disconnecting couplings - - fluid may spray unexpectedly.

6. Disconnect auxiliary trigger -- disconnect pressure setting gauge.

7. Refer to POWERIG Hydraulic Unit's instruction manual for PULL and RETURN pressure adjusting procedure.
Refer to installation tool's instruction manual for specific PULL and RETURN pressures.

8. Connect installation tool's hoses and control cord to hydraulic unit.
## Parts List for Service Parts Kit, P/N 120073

**Used on Combination Valves P/N 119740 (AC) and P/N 120362 (DC).**

Refer to **FIGURES 11, 11A, and 11B**

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</table>

## Notes and Specifications for Tables

1. Applicable service kits should be available. Kits include O-rings, back-up rings and other perishable items.

2. All part numbers shown in parts list are available from Huck.

3. Parts in the 500000 series generally can be purchased locally.
Combination Valve and Solenoid Assembly,

Screw Adjustment for Relief Valve

Figure 11A
Section B-B
Figure 11B
Section A-A
Idler Valve with Screw Adjustment
Limited WARRANTIES

Tooling Warranty: Huck warrants that tooling and other items (excluding fasteners, and hereinafter referred as "other items") manufactured by Huck shall be free from defects in workmanship and materials for a period of ninety (90) days from the date of original purchase.

Warranty on "non standard or custom manufactured products": With regard to non-standard products or custom manufactured products to customer's specifications, Huck warrants for a period of ninety (90) days from the date of purchase that such products shall meet Buyer's specifications, be free of defects in workmanship and materials. Such warranty shall not be effective with respect to non-standard or custom products manufactured using buyer-supplied molds, material, tooling and fixtures that are not in good condition or repair and suitable for their intended purpose.

There are no warranties which extend beyond the description on the face hereof. Huck makes no other warranties and expressly disclaims any other warranties, including implied warranties as to merchantability or as to the fitness of the tooling, other items, nonstandard or custom manufactured products for any particular purpose and Huck shall not be liable for any loss or damage, directly or indirectly, arising from the use of such tooling, other items, nonstandard or custom manufactured products or breach of warranty or for any claim for incidental or consequential damages.

Huck's sole liability and Buyer's exclusive remedy for any breach of warranty shall be limited, at Huck's option, to replacement or repair, at FOB Huck's plant, of Huck manufactured tooling, other items, nonstandard or custom products found to be defective in specifications, workmanship and materials not otherwise the direct or indirect cause of Buyer supplied molds, material, tooling or fixtures. Buyer shall give Huck written notice of claims for defects within the ninety (90) day warranty period for tooling, other items, nonstandard or custom products described above and Huck shall inspect products for which such claim is made.

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

Huck makes no warranty with respect to the tooling, 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.

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 Tools Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck office listed on the back cover for the ATSC in your area.
A Global Organization
Alcoa Fastening Systems (AFS) maintains company offices throughout the United States and Canada, with subsidiary offices in many other countries. Authorized AFS distributors are also located in many of the world’s industrial and Aerospace centers, where they provide a ready source of AFS fasteners, installation tools, tool parts, and application assistance.

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www.hucktools.com

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95450 Us Par Vigny
France
33-1-30-27-9500
FAX: 33-1-34-66-0600


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