



**WPP-1500  
WPP-1501**

## **ELECTRIC-HYDRAULIC TUBE PULLER**



### **OPERATING INSTRUCTIONS & SERVICE MANUAL**

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**TO REDUCE THE RISK OF INJURY AND EQUIPMENT DAMAGE  
USER MUST READ AND UNDERSTAND OPERATOR'S MANUAL.**

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## SAFETY INSTRUCTIONS



### WARNING!

#### **READ AND UNDERSTAND ALL INSTRUCTIONS**

Failure to follow all instructions listed below, may result in accident, fire and/or personal injury.

#### **SAVE THESE INSTRUCTIONS**

1. **KNOW YOUR POWER TOOL.** Read this service manual carefully.
2. If any safety guards are missing or there are broken or exposed parts, return tool to factory for service.
3. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
4. **AVOID DANGEROUS ENVIRONMENT.** Keep work areas well lit.
6. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, high or locked-up place – out of reach of children.
7. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.
8. **WEAR PROPER APPAREL.** No loose clothing or jewelry to get caught in moving parts. Rubber gloves and footwear are recommended when working outdoors.
9. **USE SAFETY GLASSES** with most tools. Also face or dust mask if cutting operation is dusty.
10. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
11. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hands to operate tool.
12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOL WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
14. **DISCONNECT TOOLS:** When not in use; before servicing; when changing accessories such as blades, bits, cutters, etc.
15. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking that keys and adjusting wrenches are removed from tool before turning it on.
16. **AVOID ACCIDENTAL STARTING.** Don't carry plugged-in tool with finger or switch.
17. Disconnect the tool from the air supply before installing, making any adjustment, changing accessories, servicing or storing tool.
18. Do not use unit with combustible fluids or where combustible fluids or fumes may be present
19. Stay clear of loads supported by hydraulics. Do not handle hoses under pressure.
20. Never make or break hydraulic connection while the system is under pressure.
21. The system operating pressure must not exceed the pressure rating of the lowest rated component in the system.
22. **NEVER** set the relief valve to a higher pressure than the maximum rated pressure of the pump.

# ASSEMBLY



# OPERATION

## Equipment Set-Up

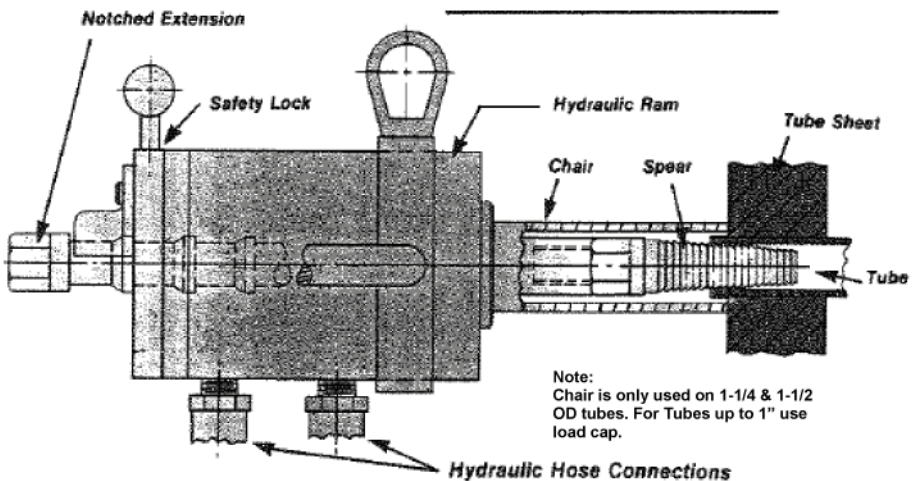
- 1- Fill pump tank with hydraulic oil, minimum one gallon to a maximum two gallons. Wilson no. 74478-0041.
- 2- Uncoil hydraulic hoses and connect quick couplings to the connectors on power unit and the hydraulic ram. Couple them hand-tight.
- 3- Plug in electrical cord to properly grounded outlet.
- 4- Bleed air out of the hydraulic hoses. Turn on switch at pump. Press switch on remote control to advance piston. Hold for 5 seconds, then press reverse switch to return piston all the way back. Repeat 2 to 3 times.



**NOTE:** A 20 Amp circuit is required to run the motor. Damage would occur if the pump is operated in a 15 Amp circuit .  
If extension cord is required, it must be of 12 GA. Wire for a length of 25 feet.

## Pump Pressure Setting

Max. pump pressure should be 10,000 psi. (This is factory set.)  
Run the cylinder to full stroke and observe the gauge.

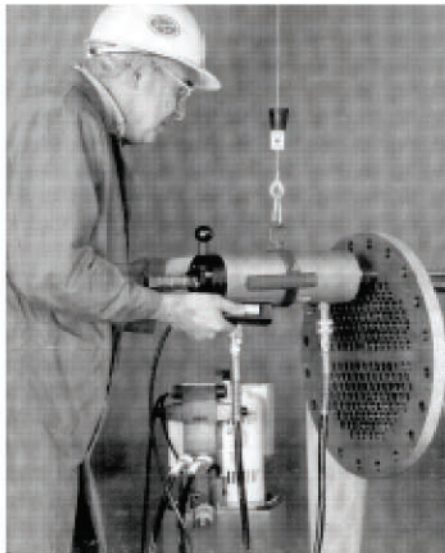


**HYDRAULIC CYLINDER**

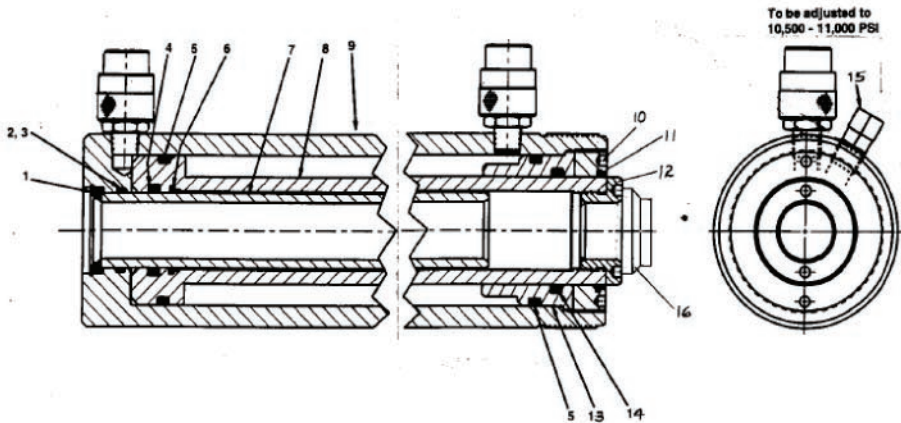
## OPERATION CONT.

### Tube Pulling Procedures:

1. Select proper Spear (see chart at page #9).
2. Thread lubricated spear into tube end. Use water-soluble lubricant (full strength general purpose detergent) or a light oil.
3. Drive spear into tube end. Attach Notched Extension to spear. Attach a 7/8" hexagon drive socket to Notch Extension. Drive with a 3/4" square impact wrench.
4. Slide Hydraulic Cylinder over Notch Extension and Spear. Be sure Load Cap (smaller version like chair) is in place for tubes up to 1".
5. Engage Safety Lock in Notch Extension. Safety Lock must be fully engaged in down position.
6. Activate hydraulic pump by pressing switch on remote control to pull tube. Engage another notch on Extension for more pulling stroke.
7. Return piston into hydraulic cylinder with remote control.
8. Slide cylinder free from spear and Notch Extension.
9. Remove spear from pulled tube.
10. Repeat above steps to pull next tube.



# RAM ASSEMBLY



KEY	DESCRIPTION	PART NO.	QTY
1	Retaining Ring	**	1
2	O-ring	**	1
3	Back-up Ring	**	1
4	G-T Ring	**	1
5	G-T Ring	**	2
6	Wiper	**	1
7	Tube Assembly	DA3468.900	1
8	Plunger	DA3472.040	1
9	Cylinder	Order Complete Cylinder	1
10	Stop Ring	DA3463.044	1
11	Wiper	**	1
12	Saddle	CF698.045	1
13	Internal Stop Ring	DA3463.044	1
14	G-T Ring	**	1
15	Relief Valve	CJ160.900W	1
16	Load Cap	74515-0015	1
	Repair Kit	75658-0018	1

# MAINTENANCE

## General

1. Keep the components clean at all time. Many hydraulic service problems are caused by dirt and/or metallic particles in the hydraulic system. To avoid these problem, the use of proper maintenance including rust prevention and cleanliness will help extend the life of your hydraulic system.
2. Use only an approved clean hydraulic fluid and change fluid as recommend by the manufacturer. Change fluids more often if unit is used under extreme conditions.
3. Change or clean the filter in the system periodically if one is used.

## Hydraulic Hoses

1. Hydraulic hoses should be left in carton until needed.
2. Store hoses at a temperature between 50° to 75° F and at a humidity between 20 and 70 percent.
3. Never store hoses in a hot, damp room, in direct sunlight or near heat sources.
4. Do not stack hoses. The weight of the pile will tend to flatten the hose on the bottom. Hanging in a rack is preferred.
5. Do not carry or drag hydraulic assemblies by pulling or pushing on couplings or hoses.

## Fittings and Couplings

1. All coupler threads, either male or female, must be kept clean and lubricated regularly. Cover couplers with dust caps when not connected to system. Do not remove covers or plugs until component is ready to be used.
2. Keep dust caps on couplers when not in use. Make certain that all unused couplers are sealed with dust caps/thread protectors.
3. Be sure all hose connections are free of grit and grime.

## ACCESSORIES

<b>Part No. WPP-1500 KIT For 1/2 to 1– Inch OD Consists of</b>	<b>Part No.</b>
Hydraulic Cylinder	75658
Notched Extension	74510
Electric/Hydraulic Pump Set 115 Volt/60 Hz	74825
Includes:	
One Gallon of Hydraulic Oil No. 74478-0041	
Two 12-Foot Hydraulic Hoses No. 74490	
Assembled with Quick-Acting Hose Couplings	
Service Manual	SM-251

<b>Other Available Pump Sets</b>	<b>Part No.</b>	<b>Part No.</b>
Electric/Hydraulic Pump Set 220 Volt/50Hz	74825-2250	WPP-1501 KIT
Electric/Hydraulic Pump Set 220 Volt/60Hz	74825-2260	WPP-1501 KIT-2260 KIT
Electric/Hydraulic Pump Set 440 Volt/50Hz/3Phase	74825-4450	WPP-1501 KIT-4450 KIT
Optional Equipment for 1-1/4 inch OD and 1-1/2 Inch OD Tubes:		
Adapter Kit No.	74593-0000	
One Chair	74593-0001	
One Adapter Extension	74593-0002	



## SPEAR CHART

Tube Gauge	1/2-Inch Tube	5/8-Inch Tube	3/4-Inch Tube	7/8-Inch Tube	1-Inch Tube	1-1/4-Inch Tube	1-1/2-Inch Tube
7	-	-	-	-	-	-	-
9	-	-	-	-	74192-0014	-	-
10	-	-	-	-	-	-	74189-0010
11	-	-	74194-0016	74193-0016	74191-0011	74190-0011	74189-001
12	-	74194-0012	74194-0018	74193-0018	74191-0012	74190-0012	74189-0012
13	-	74195-0020	74194-0020	74193-0020	74191-0013	74190-0013	74189-0013
14	-	74194-0014	74193-0014	74192-0014	74191-0014	74190-0014	74189-0014
16	74195-0016	74194-0016	74193-0016	74192-0016	74191-0016	74190-0016	-
18	74195-0018	74194-0018	74193-0018	74191-0012	74191-0018	-	-
20	74195-0020	74194-0020	74193-0020	74191-0012	74191-0020	-	-

Spears from 1/2 to 1 inch, End Thread is Male 3/4"-10  
 Spears 1-1/4 & 1-1/2 inch, End Thread is Female 3/4"-10

## TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
<p><b>Electric motor does not run.</b></p> <p><b>! Warning</b>  <b>Disconnect power supply before removing cover. Any electrical work should be done by a qualified electrician.</b></p>	<ol style="list-style-type: none"> <li>1. Unit is not plugged in.</li> <li>2. No voltage supply.</li> <li>3. Broken lead wire or defective power cord plug.</li> <li>4. Defective switches.</li> <li>5. Defective starter relay.</li> <li>6. Defective remote switch.</li> <li>7. Circuit breaker tripped because total amperage draw too high for existing circuit.</li> <li>8. Overheated motor.</li> <li>9. Faulty thermal protector.</li> <li>10. Defective motor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Plug in unit.</li> <li>2. Check line voltage.</li> <li>3. Replace defective parts.</li> <li>4. Check switches.</li> <li>5. Replace defective parts.</li> <li>6. Repair or replace remote switch.</li> <li>7. Add an additional circuit or use alternate circuit.</li> <li>8. Wait for motor too cool before restarting. Thermal protector will reset automatically or push red button.</li> <li>9. Replace.</li> <li>10. Replace or repair motor.</li> </ol>
<p><b>Pump is not delivering oil or delivers only enough oil to advance ram partially or erratically.</b></p> <p><b>! Warning</b>  <b>The force of escaping hydraulic fluid could cause serious injury. Keep hands, face, etc clear of any hydraulic leaks.</b></p>	<ol style="list-style-type: none"> <li>1. Oil Level too low.</li> <li>2. Loose fitting coupler to cylinder.</li> <li>3. Air system.</li> <li>4. Air leak in suction line.</li> <li>5. Dirt in pump or filter plugged.</li> <li>6. Cold oil or oil is too heavy .</li> <li>7. Relief valve or low pressure.</li> <li>8. Defective directional valve.</li> <li>9. Release poppet not seating in solenoid valve.</li> <li>10. Sheared drive shaft key.</li> <li>11. Motor rotating in wrong direction.</li> <li>12. Vacuum in reservoir</li> <li>13. Low pressure pump worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill reservoir to 1 inch from cover.</li> <li>2. Check couplings.</li> <li>3. Bleed the system.</li> <li>4. Tighten the suction line.</li> <li>5. Pump filter should be cleaned.</li> <li>6. Change to lighter oil.</li> <li>7. Readjust as needed.</li> <li>8. Replace if necessary.</li> <li>9. Disassemble and clean. Pump.</li> <li>10. Replace</li> <li>11. Refer to electric schematic on motor.</li> <li>12. Checked for plugged vent in filler plug.</li> <li>13. Repair or replace.</li> </ol>
<p><b>Pump delivers excess oil pressure</b></p>	<ol style="list-style-type: none"> <li>1. Check pressure gauge.</li> <li>2. Relief valve not properly set.</li> </ol>	<ol style="list-style-type: none"> <li>1. Calibrate gauge.</li> <li>2. Reset the relief valve.</li> </ol>

**TROUBLE SHOOTING CONT.**

<b>PROBLEM</b>	<b>CAUSE</b>	<b>SOLUTION</b>
<b>Pump build pressure but cannot maintain pressure.</b>	<ol style="list-style-type: none"> <li>1. Check to see if there are any external leaks. If not, the problem is internal.</li> <li>2. To test for a leaking control valve, lift the pump from the reservoir but keep the filter in the oil. Remove the drain line to see if The oil is leaking from the valve. If the valve is not leaking, the internal check valve could be leaking.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reseal leaking pipe fittings with pipe sealant.</li> <li>2. Clean, reseal or replace flow control valve parts. If the internal check valve is leaking, the check valve must be disassembled and the seat area repaired, poppet replaced, etc.</li> </ol>
<b>Pump will not build full pressure.</b>	<ol style="list-style-type: none"> <li>1. Faulty pressure gauge.</li> <li>2. External leakage.</li> <li>3. Check the relief valve setting.</li> <li>4. Check for leaks in the solenoid valve.</li> <li>5. Inspect the pump for internal leakage.</li> <li>6. Sheared Key.</li> <li>7. Automatic valve leakage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Calibrate gauge.</li> <li>2. Seal any faulty pipe fitting.</li> <li>3. Lift the pump from the reservoir but keep the filter immersed in oil. Note the pressure reading when the relief valve begins to open up. If function normally, it should start to leak off at relief valve pressure.</li> <li>4. Clean and reset or replace parts.</li> <li>5. Same procedure as above but look for leaks around the entire mechanism.</li> <li>6. Replace.</li> <li>7. Check automatic valve seat.</li> </ol>
<b>Cylinder will not retract.</b>	<ol style="list-style-type: none"> <li>1. Check the system pressure, if the pressure is zero, the solenoid valve is releasing pressure and the problem may be in the cylinder, (mechanical linkage connected to cylinder), or quick-disconnected couplings.</li> <li>2. Defective valve.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the cylinder couplers to insure that they are completely coupled.</li> <li>2. Check valve operation and inspect parts.</li> </ol>
<b>Automatic valve will not build full pressure.</b>	<ol style="list-style-type: none"> <li>1. Unloading pressure is too low.</li> <li>2. Defective or oversize seat on automatic valve.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase unloading pressure.</li> <li>2. Replace ball and seat.</li> </ol>

# SPECIFICATIONS

<b>MODEL</b>	<b>74825-0000</b>	<b>74825-2250</b>	<b>74825-2260</b>	<b>74825-4450</b>
<b>Voltage (Volt)</b>	115	220	220	440
<b>Frequency (Hz)</b>	60	50	60	50/60
<b>Horse Power</b>	1-1/2	1-1/2	1-1/2	1-1/2
<b>Phase</b>	Single	Single	Single	Three
<b>Current (amp)</b>	15	15	15	20
<b>Operating Pressure (psi)</b>	0-10,000	0-10,000	0-10,000	0-10,000
<b>Max. Operating Temp. (F)</b>	150	150	150	230
<b>Flow Rate @ 0-200 psi (cu.in/min)</b>	500	500	500	650
<b>Flow Rate @ 10,000 psi (cu.in/min)</b>	46	46	46	60
<b>Pump Weight (lb)</b>	79	79	79	125
<b>Ram weight (lb)</b>	55	55	55	55

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