RAUCH MANUFACTURING, INC.

2547 W. Success Way

Emmett, Idaho 83617

208-365-3492

208-365-3792 (Fax)

RAUCH SPINNER

113HD Manual / Instructions

**Does the job easier,
safer and faster
maximizing efficiency on
all your jobs**

WWW.RAUCHMFG.COM

RAUCHMFG@OUTLOOK.COM

Index

Important Tips Installing and Using Model 113HD

Installing

Required hydraulic pressure 1500-2000 PSI
Required hydraulic flow 10-25 GPM

3/4 inch hydraulic hose is recommended

Hang the unit and select one of the 4 holes atop the unit that best allows the tool to hang level. There are (2) hex bolts and lock nuts that may need adjusted to allow the tool to hang level front to back.

Adjusting

The gold knob on the right hand side of the tool adjust the clamping pressure

There is a black box located on the front of the tool with four hydraulic hoses connected. This box adjusts the rotating pressure. One side adjusts clockwise rotation pressure the other counter-clockwise rotation pressure. To adjust these remove the hex shaped caps, one on each side, loosen the set nut and run the Allen in or out and re-tighten the set nut. Running in will increase, out will decrease.

When using the spinner on pipe smaller than 4 inches you will move the adjustment pin from the 5 main holes on the primary frame to the single hole in the rear of the primary frame and through one of the two holes close to the same location on the secondary frame. This will allow the spinner to clamp the pipe using only 3 of the 4 rollers so the rollers do not come in contact with each other before the tool tightens on the pipe.

Operate the spinner at least 12 inches (18-20 inch is ideal) from the end of the pipe. Operating the spinner close to the end of the pipe depending on your clamping adjustments may "egg shape" the pipe making it difficult to thread into the collar and may cause thread damage.

Safety

Always use a device or "dead man cable" provided to attach to a corner of the tool to prevent the tool from rotating. This cable must be tied off 90 degrees from the pipe axis.

Always lower tool to the ground to move the adjustment pin.

Maintenance

Keep rollers greased

Periodically check torque on (4) motor bolts large Allen head. Torque to 80 ft-lbs.

Any questions contact us directly: (208) 365-3492

Getting Started:

Please check the contents of your package to insure you received all items.

Contents should include:

- **Rauch Model 113HD Spinner**
- **Spinner Counterweight**
- **2 - 14' Cables with Clamps**
- **Owners Manual Packet**

It is important to document the serial number of this tool for future reference.

Serial # _____

If an item is missing from your package, contact:

Rauch Manufacturing, Inc.

208-365-3492

RAUCHMFG@OUTLOOK.COM

Safety Guidelines

SAFETY PRECAUTIONS FOR THE RAUCH SPINNER

WARNING: FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY.

As with all machinery there are certain hazards involved with the operation and use of the Rauch Spinner. Using the Spinner with caution and respect will considerably lessen the possibility of personal injury.

However, if normal safety precautions are overlooked or ignored, personal injury to the operator and bystanders may result.

This machine was designed for certain applications only. Rauch Manufacturing, Inc. strongly recommends that this machine NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application, DO NOT use the machine until after you contact Rauch Mfg. and have recieved instruction and advice.

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1. **DO NOT operate while under the influence of drugs, alcohol or medication.**
2. **STAY ALERT. Watch what you are doing. Use common sense. Do not operate tool when you are tired.**
3. **KEEP WORK AREA CLEAN. Cluttered and slick areas invite accidents.**
4. **KNOW THE TOOL. Learn its applicatins and limitations as well as potential hazards related to this tool.**
5. **WARNING. The use of other accessories not specifically related to this tool may create a hazard.**
6. **DO NOT ALTER OR MISUSE TOOL. Alteration or modification not specified is misuse and may result in a dangerous condition.**
7. **MAINTAIN TOOL.**
8. **WARNING: KEEP HANDS, FEET, HAIR, CLOTHING AND JEWELRY AWAY FROM ANY MOVING PARTS ON THE RAUCH SPINNER.**
9. **AVOID BACK INJURY. Lift properly.**
10. **NEVER STAND ON TOOL. Serious injury could occur.**
11. **Do not operate tool without all safety gaurds in place.**

Specifications

Model #	Pipe Size Range (INCHES)	Torque (FT-LBS)	Tool Size (INCHES)	Weight	AIR	PSI
41B	7/8 - 4"	2000	23 x 19	340 lbs	90-150 PSI	1000-3000
512B	2 3/8 - 7 1/2"	2000	23 x 19	340 lbs	90-150 PSI	1000-3000
41H	1 - 4 1/2"	2000	32 x 21	450 lbs	n/a	1000-3000
512H	2 3/8 - 9"	2000	40 x 25	486 lbs	n/a	1000-3000
512HX	2 3/8 - 11"	2000	40 x 25	486 lbs	n/a	1000-3000
517	5 - 20"	4000	42 x 44 x 34	810 lbs	60-240 cfm	1000-3000
112H	1 1/2 - 12"	1100-2200	24 x 47 x 24	708 lbs	n/a	1000-3000
112A	1 1/2 - 12"	1100-2200	32 x 37 x 40	850 lbs	60-240 cfm	1000-3000
113HD	1 - 10"	3000	30 x 32 x 32	400 lbs	n/a	1000-3000

***** Hydraulic Flow to all tools is 2 - 20 GPM.**

***** Air Pressure 90 - 150 PSI.**

Installation

Installing the Rauch Spinner can be done one of two ways:

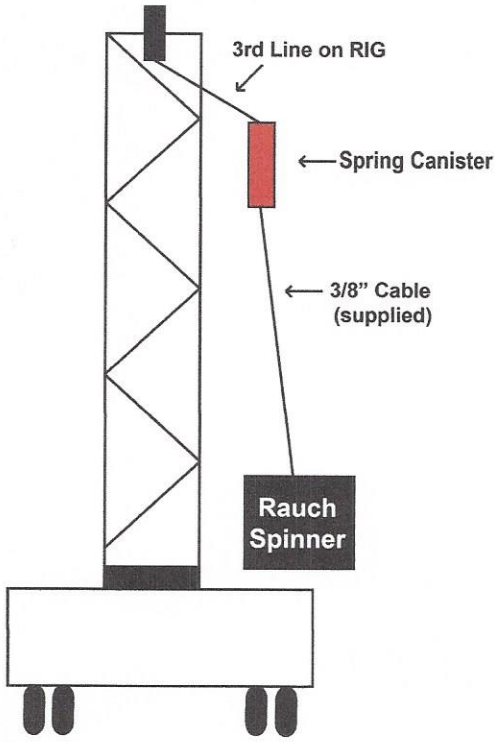
1. **Hang the Spinner and Spring Canister by a 3rd line on the rig.**

OR

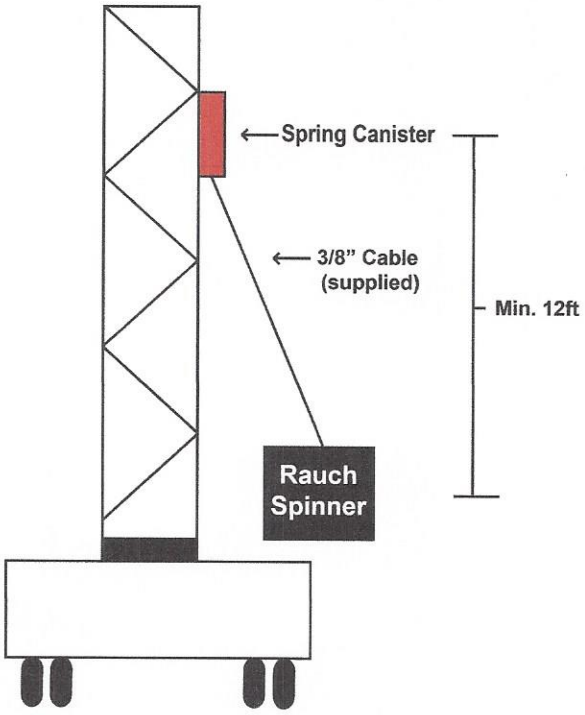
2. **Weld the Spring Canister directly to the mast.**

When installing the Rauch Spinner by welding to the mast you should place the canister as high on the mast as possible with a minimum distance of 12ft from the bottom of the Spring Canister to the rotating table. It should not be mounted any further away than 5ft horizontally from the center of the table. Installing the Spinner should be done with the supplied 3/8" cable. *No cable smaller than 3/8" should be used.*

Option 1



Option 2



Installation

1. Be sure the Spring Canister is mounted on the cable that the Rauch Spinner is hanging from in order to allow the tool to move up and down with ease.

2. Make sure all cables and hoses are properly tightened before using the Rauch Spinner.

3. Make sure hydraulic return and feed hoses are the same size.

4. Make sure hydraulic oil is filtered going into the tool to prevent damage to the hydraulic motor.

5. Recommended hydraulic flow is 16-20 gpm or 2500 psi. Do not exceed 3000 psi on the motor or 23 gallons per minute.

6. Have hydraulics turned off before disconnecting.

7. Don't force the tool. It will do the job better and safer at the rate for which it was designed.

8. Turn off the machine if the tool is to be backed out of an uncompleted or jammed operation.

9. Never leave tool running unattended. Turn off. Don't leave tool until it comes to a complete stop.

10. Disconnect machine from power source when making repairs.

11. BEFORE EACH USE:

INSPECT ALIGNMENT OF MOVING PARTS
INSPECT BINDING OF MOVING PARTS
CHECK FOR BROKEN OR DAMAGED PARTS
MAKE SURE ALL WASHERS, NUTS, CABLE & HOSE CONNECTIONS ARE TIGHT
MAKE SURE NO PARTS HAVE EXCESSIVE PLAY
IF ANY PART IS MISSING, BENT OR BROKEN OR NOT WORKING PROPERLY, TURN TOOL OFF!!! REPLACE DAMAGED PARTS BEFORE USING TOOL!!!

BEFORE ACTIVATING THE POWER ARM, BE SURE THE SPINNER IS ALL THE WAY FORWARD ON THE DRILL PIPE TO PREVENT EJECTING THE PIPE!!!

Operation

Before each use:

- inspect alignment of moving parts
- inspect binding of moving parts
- check for broken or damaged parts
- make sure all washers, nuts, cable connections and hose connections are tight.
- make sure no parts have excessive play.
- if any part is missing, bent, or broken in any way, or not working properly, TURN TOOL OFF. Replace damaged, missing or failed parts before parts before using the tool again.

1. Be sure the spring canister is mounted on the cable that the Rauch Spinner is hanging from to allow the tool to move up and down with ease.

2. Make sure all cables and hoses are properly tightened before using the Rauch Spinner.

3. Make sure hydraulic return and feed hoses are the same size.

4. Make sure hydraulic oil is filtered going into the tool to prevent damage to the hydraulic motor.

5. When putting the Spinner Tool on the pipe, make sure the tool is all the way on the drill pipe before actuating the air valve.

6. Recommended hydraulic flow is 16-20 gpm or 2500 psi. Do not exceed 3000 psi on the motor or 23 gallons per minute.

7. Have hydraulics turned off before disconnecting.

8. Don't force the tool. It will do the job better and safer at the rate for which it was designed.

9. Turn off the machine if the tool is to be backed out of an uncompleted or jammed operaton.

10. Never leave tool runing unattended. Turn off. Don't leave tool until it comes to a complete stop.

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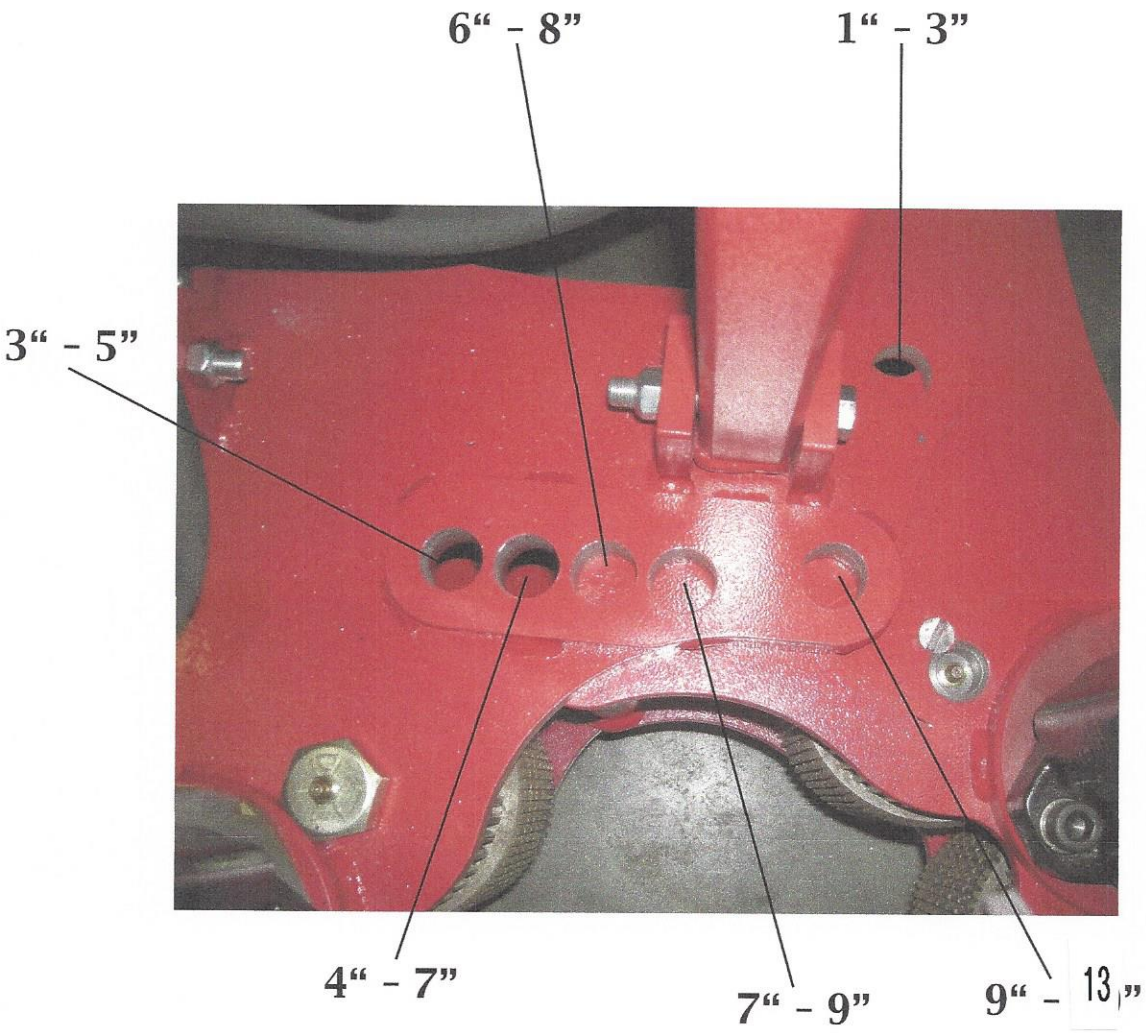
Pipe Size Adjustment

TO ADJUST SPINNER FOR 1 INCH TO 13 INCH - FOLLOW THE DIAGRAM BELOW



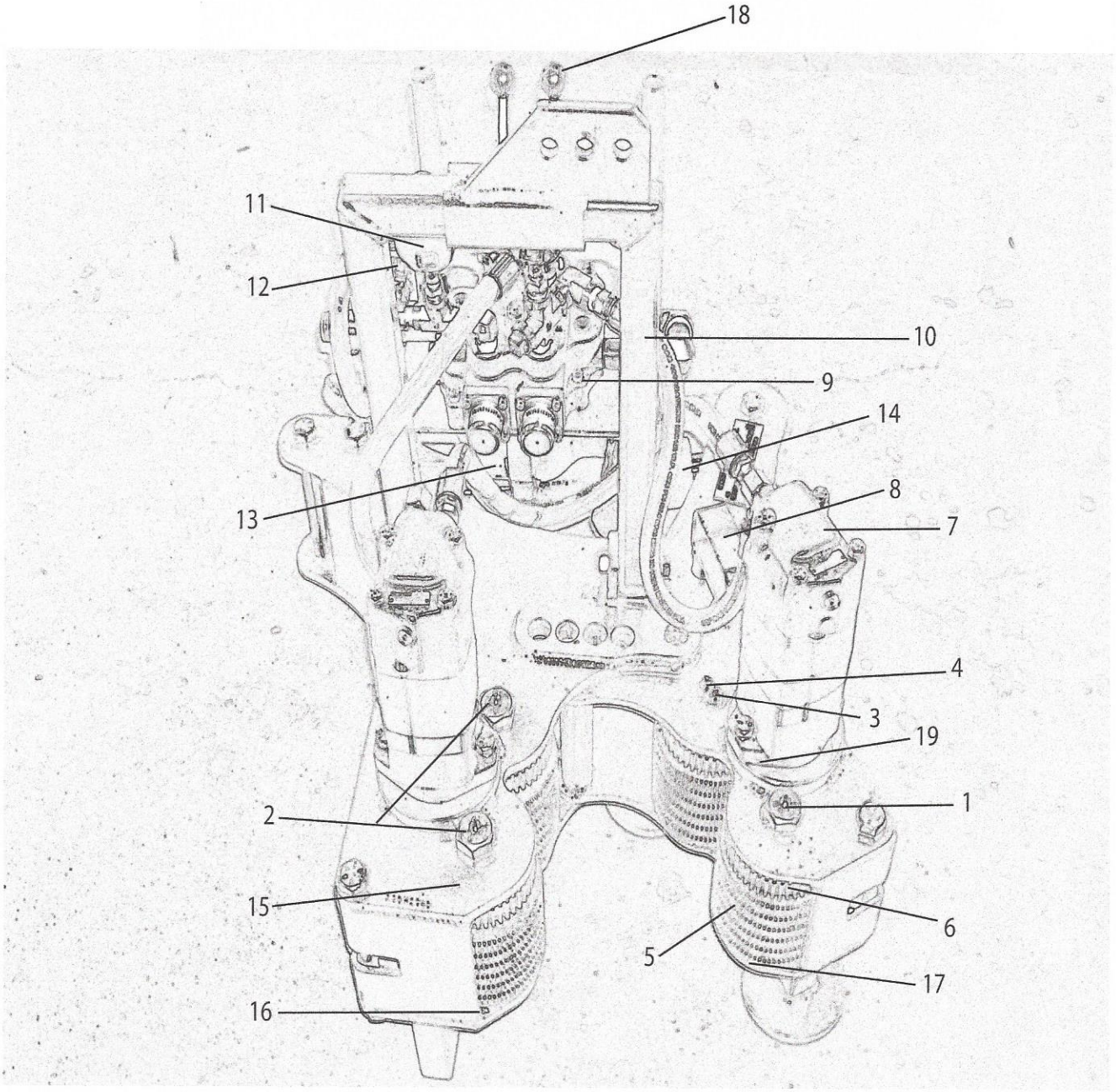
NOTE: Because of the size ranges available in the different size settings, we recommend trying all the setting available for the best performance of your spinner. You may find one works better than another.

Schematic

RAUCH SPINNER

Model 113HD

(For use with page # 11 - Replacement Parts)



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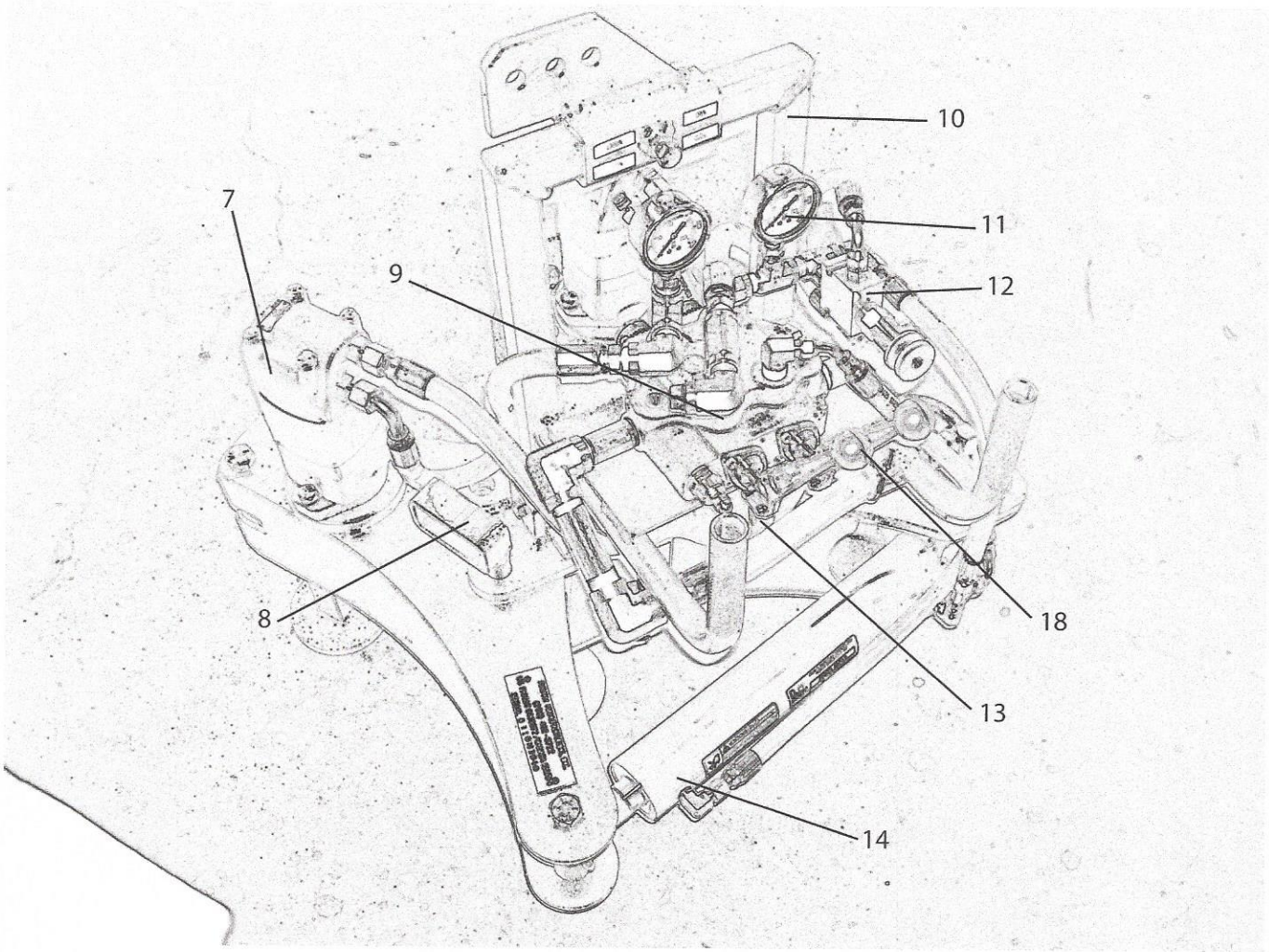


Replacement Parts

RAUCH SPINNER

#	ITEM	Qty	#	ITEM	Qty
1	113HD - Hex Pin (short)	1			
2	113HD - Hex Pin (long)	2			
3	113HD - Inner Pin	1			
4	113HD - Retaining Screw	1			
5	113HD - Power Roller	4			
6	113HD - Power Roller Gear	6			
7	113HD - White Hydraulic Motor	2			
8	113HD - Size Adjustment Pin	1			
9	113HD - Double Cross Valve	1			
10	113HD - Hanger Bracket	1			
11	113HD - 3000 PSI Gauge	2			
12	113HD - 1/4" Regulator	1			
13	113HD - Accumulator	1			
14	113HD - 12" Hydraulic Ram	1			
15	113HD -Top Brass Spacer	4			
16	113HD - Bottom Brass Spacer - thick	2			
17	113HD - Bottom Brass Spacer - thin	2			
18	113HD - Cross Valve Handle Kit	2			
19	113HD - Motor Gear	1			
12					

Ordering / Warranty

- Please have the Model # of your Spinner when calling to order parts of replacement tools.
- Please refer to the REPLACEMENT PARTS LIST on page 13.
- CALL our Parts Department at : 208-365-3492
- FAX ORDERS to 208-365-3792
- EMAIL ORDERS to RAUCHMFG@OUTLOOK.COM

Rauch Manufacturing, Inc. warrants the Rauch Spinner for workmanship and materials for one year.

Note: ***Adherance to the specifications and safety precautions set forth in this manual will increase the efficiency and life of the equipment and prevent bodily injury.***

HYDRAULIC PRODUCT SAFETY

WARNING: Valve lever (spool) may "stick" (not center) under certain conditions allowing the hydraulic equipment to continue to operate and could cause serious injury, death or equipment failure.

VALVE SAFETY: Read and follow instructions carefully. Failure to observe instructions and guidelines may cause serious injury, death or equipment failure. A sticking valve (spool bind) may be caused by one or more of the following factors:

DIRTY OIL: Oil must be filtered to a minimum of 25 microns. Filters should be changed regularly - spin-on types after 50 hours of initial use and then after every two hundred fifty hours of use. Use of a condition indicator is recommended. Consult your tractor or implement owner's manual for filtration and changing recommendations for internal systems.

OIL REQUIREMENTS: Premium quality anti-wear type oil with a viscosity between 100 and 200 SSU at operating temperatures. Certain synthetic oils may cause spool seals to swell and the valve to stick. If in doubt, call CROSS Engineering.

IMPROPER HOOK UP OR MOUNTING: Always use the proper size fittings. Hook up "in" & "out" as noted on the valve body. Do not over torque pipe fittings. (Use liquid pipe sealant only - cracked ports are not covered under warranty.) Mounting surfaces should be flat and care should be used when tightening mounting bolts. Over-tightened bolts can cause spool bind and casting breakage. When hooking a valve in series, always use a power beyond sleeve. Consult your tractor or implement manual to make sure you have the proper quick disconnect line connected to the inlet of the remote valve.

MISAPPLICATION: Always use the proper valve for the job. CONVERTA, CD, CS or CA valves should never be used for metered heavy load lifting - loaders or similar applications. Use and open center valve for open center applications and a closed center valve for closed applications. If in doubt, check with your tractor dealer. Contact CROSS if the valve allows the hydraulic equipment to creep excessively.

MAINTENANCE: Make sure all bolts are tightened and torqued to the recommended specification. Bent or broken parts should not be used. Replace immediately. Always use exact replacements. Always protect valve spool from paint over spray.

Faulty quick disconnects can cause high back pressures and sticking spools. Check quick disconnects periodically to make sure they are functioning properly. If valve spool does not center or appears to stick, do not use!

DO NOT Use Teflon Tape
Use Liquid Pipe Sealant Only

PUMPS & MOTORS SAFETY:

A relief or bypass in your hydraulic system is necessary to prevent pump from breakage due to overpressurization. Use correct fittings and proper oil as noted in the technical service manual packed with each unit. Change oil as recommended by your implement or tractor manufacturer.

CYLINDER SAFETY:

Check clevis clearances before, during and after extending the cylinder and before using the cylinder under pressure to avoid possible injury, or bent or broken rods caused by binding. (Bent or broken rods are not covered under warranty.) Never operate a cylinder above recommended pressures. Never use a cylinder as a safety device when transporting equipment.

PINHOLE LEAKS:

If you observe a pinhole leak, discontinue use of the component. If oil has penetrated your skin or contacted your eye, seek medical attention immediately!

CROSS TROUBLE SHOOTING TIPS

FINDING AND SOLVING PROBLEMS:

Please read and observe the HYDRAULIC PRODUCT SAFETY SHEET before proceeding further. Your safety is important to us!

Gradual or sudden loss of pressure or flow resulting in a loss of power is common in hydraulic system failure. Any one of the system's components may be at fault. These step-by-step procedures should help you locate and remedy the problem quickly.

1. SYSTEM INOPERATIVE
   - **No oil in system, insufficient oil in system.** Fill system. Check for leaks.
   - **Wrong oil in system.** Refer to specifications. Change oil.
   - **Filter dirty or clogged.** Drain oil and replace filter or filter element
   - **Oil line restriction.** Oil lines dirty or collapsed. Clean or replace.
   - **Air leaks in pump suction line.** Repair or replace as necessary.
   - **Worn or dirty pump.** Clean, repair or replace. Check alignment. Check for contaminated oil. Drain and flush system.
   - **Badly worn components (valves, cylinders, etc.)** Examine and test for internal or external leakage. Replace faulty components. Check for cause of wear.
   - **Leakage.** Check all components, particularly the relief valve for proper settings. Refer to technical manuals.
   - **Excessive load.** Check unit specifications for load limits.
   - **Slipping or broken pump drive.** Repair or replace belts, couplings, etc. Check for proper alignment or tension.

2. SYSTEM OPERATES ERRATICALLY
   - **Air in system.** Check suction side of system for leaks. Repair
   - **Cold Oil.** Allow ample warm-up period.
   - **Dirty or damaged components.** Clear or repair as necessary.
   - **Restrictions in filters or lines.** Clean and/or replace elements or lines.

3. SYSTEMS OPERATES SLOWLY
   - **Oil viscosity too high, cold oil.** Allow oil to warm up before operating machine.
   - **Low pump drive speed.** Increase engine speed (check manual for recommendations.)
   - **Air in system.** Check suction side for leaks. Repair.
   - **Badly worn pump, valves, cylinders, etc.** Repair or replace as needed.
   - **Restrictions in filters or lines.** Clean and/or replace elements or lines.
   - **Improper adjustments.** Check orifices, relief valves, etc. Adjust per manual.
   - **Oil leaks.** Tighten fittings. Replace seals or damaged lines.

4. SYSTEM OPERATES TOO FAST
   - **Wrong size or incorrectly adjusted restrictor.** Replace or adjust as necessary.
   - **Engine running too fast.** Reduce engine speed.

5. OVERHEATING OF OIL IN SYSTEM.
   - **Oil passing thru relief valve for excessive time.** Return control valve to neutral when not in use.
   - **Incorrect oil, low oil, dirty oil.** Use recommended oil, fill reservoir, clean oil, replace filter elements.
   - **Engine running too fast.** Reduce engine speed.
   - **Excessive component internal leakage.** Repair or replace component as necessary.
   - **Restriction in filters or lines.** Clean and/or replace elements or lines.
   - **Malfunctioning oil cooler.** Clean or repair.

5. OVERHEATING OF OIL IN SYSTEM (cont'd.)
   - **Insufficient heat radiation.** Clean dirt and mud from reservoir and components.
   - **Malfunctioning component.** Repair or replace.
   - **Reservoir too small.** Recommended size is 1 1/2 times pump gpm.

6. FOAMING OF OIL
   - **incorrect, low or dirty oil.** Replace, clean or add oil as needed.
   - **Air leaks.** Check suction line and component seals for suction leaks. Replace

7. NOISY PUMP
   - **Low oil level, incorrect oil, foamy oil.** Replace, clean or add oil as needed.
   - **Suction line plugged or too small, inlet screen plugged.** Clean or replace. Follow instructions packed with unit.
   - **Use of pipe fitting in inlet.** Replace with correct fitting.

8. BLOWN SHAFT SEAL
   - **Pump: wrong pump shaft rotation.** Replace seal. Refer to installation instructions.
   - **Motor: failure to hook up drain line.** Replace seal. Refer to installation instructions.

9. LEAKY PUMP OR MOTOR
   - **Damaged or worn shaft seal.** Replace seal. Check for misalignment.
   - **Loose or broken parts.** Tighten or replace.

10. LOAD DROPS WITH CONTROL VALVE IN NEUTRAL
    - **Leaking cylinder seals or fittings.** Replace worn parts.
    - **Control valve not centering when released.** Check linkage. Check for spool binding. Repair.

11. CONTROL VALVE DOES NOT CENTER (Binding)
    - **See Hydraulic Product Safety Sheet.**
    - **Valve linkage misaligned.** Repair.
    - **Tie-bolts too tight (stack valves).** Loosen as necessary.
    - **Valve damaged.** Repair or replace.
    - **Handle bracket screws loose.** Tighten.

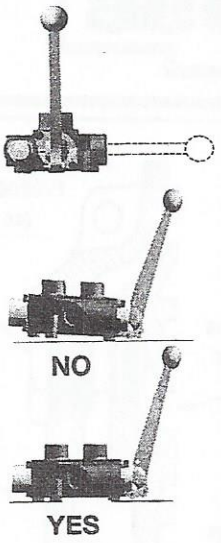
12. CONTROL VALVE LEAKS EXTERNALLY
    - **Tie-bolts too loose (stack valves).** Tighten as necessary.
    - **Seals damaged or worn.** Replace.
    - **Back pressure or restriction in tank line.** Check quick couplers. Use power beyond when necessary.
    - **Cracked port or body.** Replace. (See Hyd. Prod. Safety)

13. CYLINDER LEAKS EXTERNALLY
    - **Seals damaged or worn.** Replace.
    - **Rod damaged.** Replace.

14. CYLINDER LOWERS WITH VALVE IN "METER UP" POSITION
    - **Damaged or leaky load check.** Replace check.
    - **Leaking cylinder seal.** Replace seal.
    - **Use of a valve without load check.** Replace with recommended valve.

HANDLE POSITION:

Symmetrical mounting holes permit the valve handles to be mounted in any of 4 positions, at 90° intervals. Series B and C valves are limited to 3 positions and multiple spool valves to the up or down position. If handle position is changed from the factory assembled position, the cap screws should be "LOCTITED" when reassembled. CAUTION: Handle extensions should not be used as the resulting increased force could damage valves. When mounting, be sure there is adequate space to permit full handle movement.



MOUNTING:

Valves may be mounted in any position. Series B and C valves have 3 mounting feet, the SD and VS have 2. Holes in the B, C, and SD valves are sized 3/8" dia. bolts. The VS-2 uses 5/16" bolts; the VS-4 uses 3/8" bolts. Mounting surfaces must be flat and care should be used when tightening mounting bolts. (Over-tightened bolts on uneven surfaces can distort the valve body and cause spool binding and casting breakage).

START-UP PROCEDURE:

Prior to installation, check valve for possible damage in shipping or handling.

1. Install valve and tighten fittings. OVER-TIGHTENED PIPE FITTINGS CAN DAMAGE VALVE.
2. Fill reservoir as necessary, using the correct, clean oil.
3. Start system and check for leaks. CAUTION: DO NOT USE HANDS.
4. Bleed air from system, as necessary.
5. Gradually increase load, checking for leaks, abnormal noises, binding, etc.

MAINTENANCE:

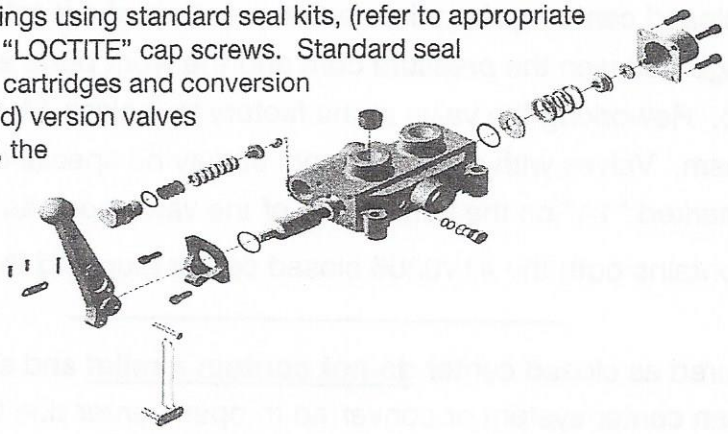
1. Clean and replace filters on a regular basis, as needed.
2. Check for presence of water in oil (cloudy appearance), air in oil (foaming oil), or burnt oil (rancid odor). Correct problem as necessary.
3. Check reservoir level regularly. Fill as needed.

TROUBLE SHOOTING:

There are only 3 potential spool valve problems: external leakage, excessive internal leakage, or spool bind. External leakage due to seal failure can be corrected by replacing seals. Leakage due to a cracked valve body requires complete valve replacement. Excessive internal leakage is usually caused by worn spools due to contaminates in the oil. Replace valve and system oil. Spool blind is caused by contamination, excessive heat, improper mounting or misalignment of valve linkage. Correct problem as needed. Refer to CROSS Trouble Shooting Guide for system overheating problems.

REPAIR:

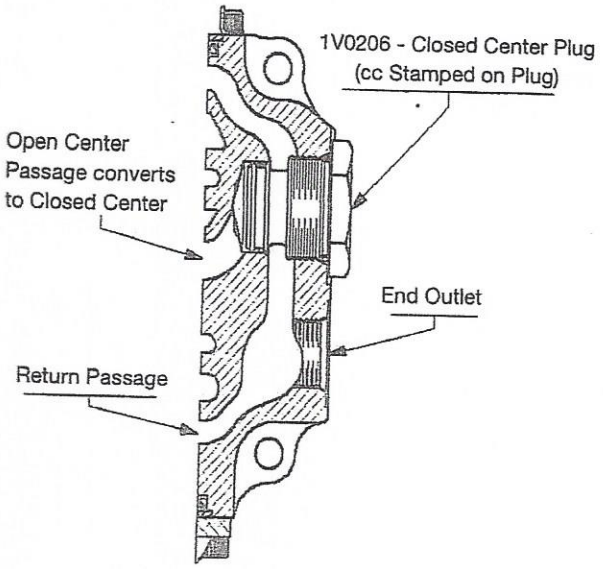
CROSS spool type directional control valves are not field repairable except for seal replacement and relief valve cartridges. Spool seals are easily replaced by removing the handle bracket, end cap and o-rings. Replace o-rings using standard seal kits, (refer to appropriate parts list). Reassemble valve and "LOCTITE" cap screws. Standard seal kits include o-rings for relief valve cartridges and conversion plugs (if appropriate). CS (solenoid) version valves do not have spool seals; however, the solenoid cartridge seals can be easily replaced if needed. Worn detents can be repaired by installing a replacement detent kit. Temporary repair is possible by removing the handle and rotating the spool 180°.



CROSS

CONVERSION TO CLOSED CENTER

BA VALVE



This option provides for conversion from **open center** to **closed center** by blocking the open center flow passage and may be used in any standard CROSS BA valve incorporating the conversion plug/power beyond machining in the BYD port.

The valve may also be ordered already converted to closed center at the factory. These valves have less clearance between the spool and body to minimize leakage between the spool and valve body which may result in creeping of the cylinder. Valves built as closed center are marked "CC" on the closed center plug.

To convert an open center valve, remove the short conversion plug and replace it with the #1V0206 closed center plug as shown. The relief on the handle end of the valve must be replaced with #1R0035 no relief plug.* **Failure** to do this will result in **chattering** of the relief caused by the constant bypass of oil and will build **excessive heat** in the system. An outlet must be plumbed to the tank to dump the oil from the return passage.

Any restriction in the tank line of a closed center system caused by faulty quick couplers, a collapsed hose, etc. will damage the spool seals, washers and handle bracket resulting in external leakage around the spool. Reversing the tractor valve so that the outlet rather than the inlet is pressurized would have the same effect. These possible problems must be remedied in the system.

In a closed center system the neutral pressure of a least 2250 psi sometimes causes leakage between the pressure core and the work ports enabling the cylinders to drift or creep. Reworking the valve at the factory to a class 1A spool fit will minimize this problem. Valves with class 1A spool fit may be special ordered from the factory and are marked "1A" on the handle end of the valve body as well as on the box.

*(Kit #1V2015 contains both the #1V0206 closed center plug and the #1R0035 no relief plug.)

Valves manufactured as closed center **do not contain a relief** and should **never** be installed in an open center system or converted to open center due to the possibility of personal injury or system damage!