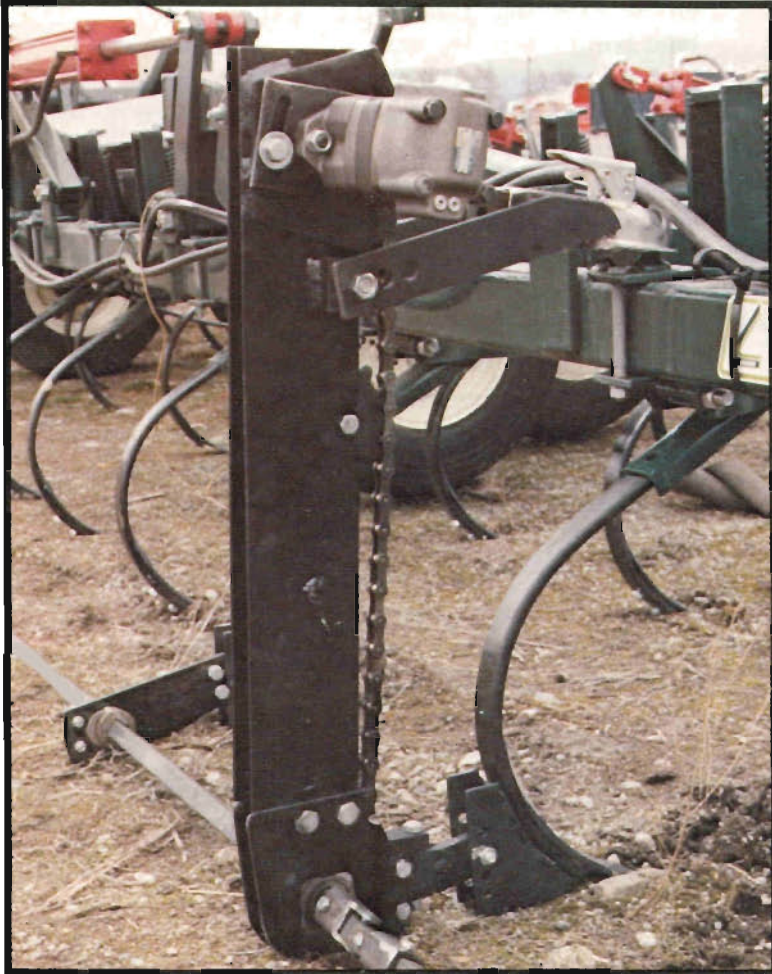


CALKINS

HYDRAULIC
DRIVE
ROD
ATTACHMENT

SINCE 1923...CONSTANT PROGRESS IN AGRICULTURAL MACHINERY



Easy-to-attach open boot with sealed hydraulic motor

ROD WEEDER ATTACHMENTS FOR CHISEL PLOWS AND CULTIVATORS

- Open boot drive, exclusive 1¼" pitch heavy duty roller chain
- High Chrome boot bottom sprocket and bearings for low maintenance
- Ball joint flexible boot coupler
- Sealed hydraulic motors with heavy duty Timken® roller bearings
- One-inch shoe assembly with high chrome cast spool and block
- One-inch heat treated rod
- Heat exchanger (one-inch black pipe cooling tubes)
- Warning light monitors hydraulic system
- Flow Divider
- Hydraulic hoses and fittings

HYDRAULIC DRIVE ROD ATTACHMENT



Replaceable, high chrome cast wear parts, easy-mount shoe



FARM MACHINERY

P.O. BOX 14527 SPOKANE INDUSTRIAL PARK
SPOKANE, WASHINGTON 99214 (509) 928-7420

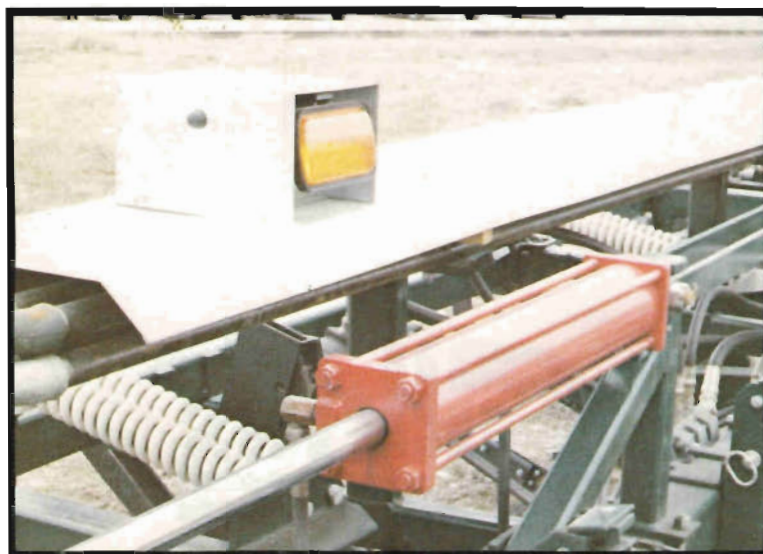


Ball joint coupler

The Calkins Hydraulic Drive Rod Attachment takes advantage of over 30 years of field-proven success in rod weeding design and engineering. The open boot chain and boot bottom features replaceable parts for easy maintenance. All in-ground wear parts use high-chrome alloy castings for long wear and economical operation. Attaching a hydraulic drive weeder on a tillage tool uses engine horsepower instead of taking power from the tractor wheels.

The open boot attaches to chisel plows and cultivators with a ball joint coupler that hinges and can yield to field obstructions. The hydraulic drive motors use heavy duty Timken® roller bearings, which are sealed from weather and dust. The boot, shoes, and rod all attach easily to your present tillage tool.

The Calkins attachment features a heat exchanger that lowers the working temperature of the hydraulic fluid. A warning light flashes if the system should exceed normal fluid temperature limits. The heat exchanger is shielded from sunshine. It uses one-inch black pipe to keep turbulence at a minimum and total fluid circulation at a maximum.



Heat Exchanger with flasher warning light

Mounting the Calkins Hydraulic Drive Rod Attachment on tillage equipment will set moisture level right behind your standard cultivator, pack the soil, level the field, and can save one ground pass. Hydraulic drive results in a faster rod turn rate, regardless of ground speed, which allows the machine to handle a greater amount of trash without plug-ups.



FARM MACHINERY

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STANDARD EQUIPMENT

OPEN BOOT CHAIN DRIVE
 HYD. MOTOR WITH H.D. BEARINGS
 OPEN BOOT BOTTOM WITH HIGH CHROME
 SPROCKET AND BEARINGS
 BALL HITCH MTG. BRACKET

WHEN PRICING COMPLETE HYDRAULIC DRIVE ROD ATTACHMENT, ORDER ITEMS FROM EACH OF THE
 TEN BOXES

DESCRIPTION	CODE	CONTROL	WT.	MFG. LIST
<u>ORDER BOOT WITH A,B,C, OR D UPPER MT.</u>				
1. HYDRAULIC DRIVE BOOT	413-300	11476A00	105	560.00
EQUIP BOOT W/ONE OF FOLLOWING				
A. CALKINS CULTIVATOR MT	413-330	1129A75	15	35.00
B. OTHER NAME CULTIVATOR (NAME OF MFG. CO.)	413-485	1139A74	15	46.75
C. 26" CHISEL PLOW	413-325	1129A75	15	35.00
D. 32" CHISEL PLOW	413-331	1129A75	20	35.00
<u>ORDER FLOW DIVIDER TO MATCH BOOTS</u>				
2. A. SINGLE BOOT FLOW DIVIDER	412-425	11155A55	25	183.00
B. TWO OR THREE BOOT FLOW DIVIDER	412-415	11312A80	35	368.00
C. FIVE BOOT FLOW DIVIDER	412-420	11508A30	55	598.00
<u>ORDER SHOES FOR EACH REAR SHANK NEEDING A SHOE</u>				
3. SHOE ASSY (HIGH CHROME)	413-305	1124A65	8	29.00
<u>ORDER MT. BRACKET FOR EACH SHOE AND BOOT ASSY.</u>				
4. A. CHISEL PLOW MT. BKT.	413-310	1111A05	7	13.00
B. CULTIVATOR MT. BKT.	413-315	1111A05	6	13.00
<u>ORDER U JOINT FOR EACH HINGE JOINT OR FOR ROCK TRIP AS NEEDED</u>				
5. U JOINT	5-546-017	1115A30	2	18.00
<u>ORDER WHEN COOLER NOT EQUIPPED ON TRACTOR</u>				
6. HYD OIL COOLER 3 SECTION WITH WARNING LITE	412-370	11349A35	125	411.00
HYD OIL COOLER 5 SECTION WITH WARNING LITE	412-371	11349A35	129	411.00

**MANUFACTURING COMPANY**

SPOKANE INDUSTRIAL PARK, BLDG. 15, SPOKANE, WA 99214
 PHONE (509) 928-7420

PRICES ARE F.O.B. SPOKANE, WASHINGTON, AND ARE SUBJECT TO CHANGE WITHOUT NOTICE.

CALKINS MANUFACTURING CO. RESERVES THE RIGHT TO SUBSTITUTE ACCESSORIES FORM 1185-29
 AT ANY TIME SUPPLY SO DICTATES WITHOUT PRIOR NOTICE.

HYDRAULIC DRIVE ROD ATTACHMENT

	<u>CODE</u>	<u>CONTROL</u>	<u>WT.</u>	<u>MFG. LIST</u>
<u>ORDER FOR WARNING SYSTEM</u>				
7. <u>WARNING LITE SYSTEM</u>	412-320	11132A60	21	156.00
STIFF TONGUE				
WARNING LITE SYSTEM	412-319	11132A60	21	156.00
FLEXITANK HITCH				
<u>ORDER ROD NEEDED IF HOLE IN ROD IS NEEDED USE ROD PER FT.</u>				
8. <u>1" X 7' WEEDER ROD</u>	5-966-107	1118A72	24	22.02
1" X 10-1/2' WEEDER ROD	5-966-110	1128A14	32	33.10
1" X 12' WEEDER ROD	5-966-112	1132A16	40	37.84
1" X 14' WEEDER ROD	5-966-114	1137A43	46	44.04
1" WEEDER ROD PER FT.		113A10	4	3.65
CHARGE FOR DRILLING HOLE	413-399	113A10		3.65
1" ROD LOCK COLLAR	6-486-002	115A70	1/2	6.70
<u>9. HYDRAULIC FITTING KIT</u>				
ONE BOOT DRIVE	413-400	1168A72	11	80.85
TWO BOOT DRIVE	413-401	1174A16	16	87.25
THREE BOOT DRIVE	413-402	1174A16	16	87.25
FIVE BOOT DRIVE	413-403	1191A80	21	108.00
<u>10. HYDRAULIC HOSE KIT</u>				
SINGLE BOOT DRIVE	413-410	11198A05	82	233.00
(END OF TONGUE TO FLOW DIVIDER NOT MORE THAN 20', BOOT NOT MORE THAN 2' FROM DIVIDER)				
TWO BOOT DRIVE	413-411	11245A65	105	289.00
(END OF TONGUE TO FLOW DIVIDER NOT MORE THAN 20', BOOT NOT MORE THAN 8' FROM DIVIDER)				
THREE BOOT DRIVE	413-412	11251A60	111	296.00
(END OF TONGUE TO FLOW DIVIDER NOT MORE THAN 20', CENTER BOOT TO FLOW DIVIDER 2', WING BOOT NOT MORE THAN 12' FROM FLOW DIVIDER)				
FIVE BOOT DRIVE	413-413	11433A50	187	510.00
(END OF TONGUE TO FLOW DIVIDER NOT MORE THAN 24', CENTER BOOT TO FLOW DIVIDER 2', INNER WING BOOT NOT MORE THAN 12' FROM FLOW DIVIDER, OUTER WING NOT MORE THAN 26' FROM FLOW DIVIDER)				

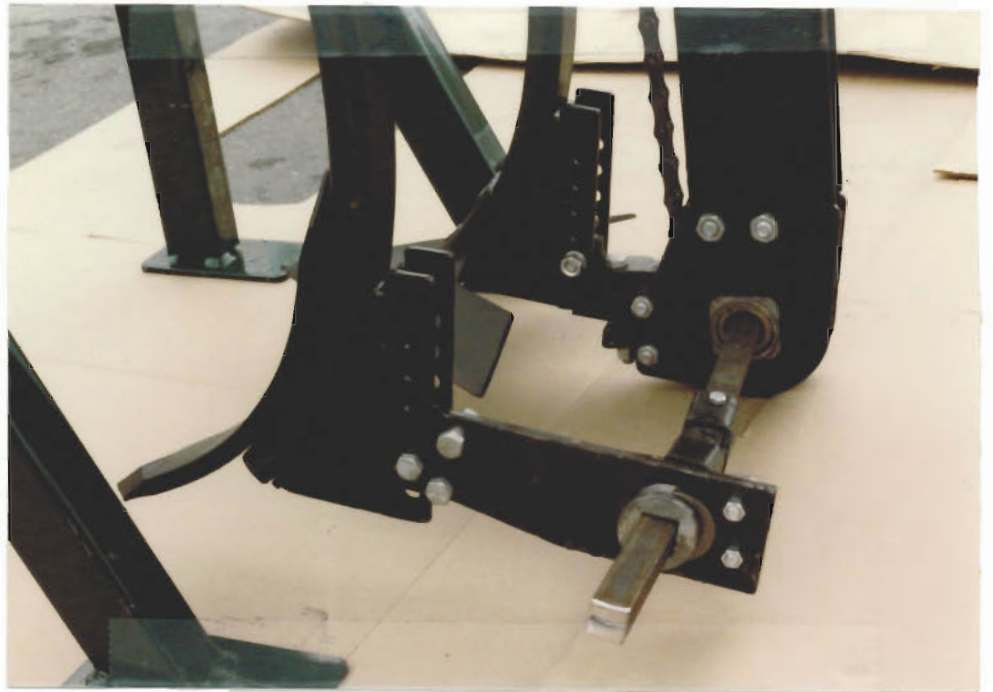
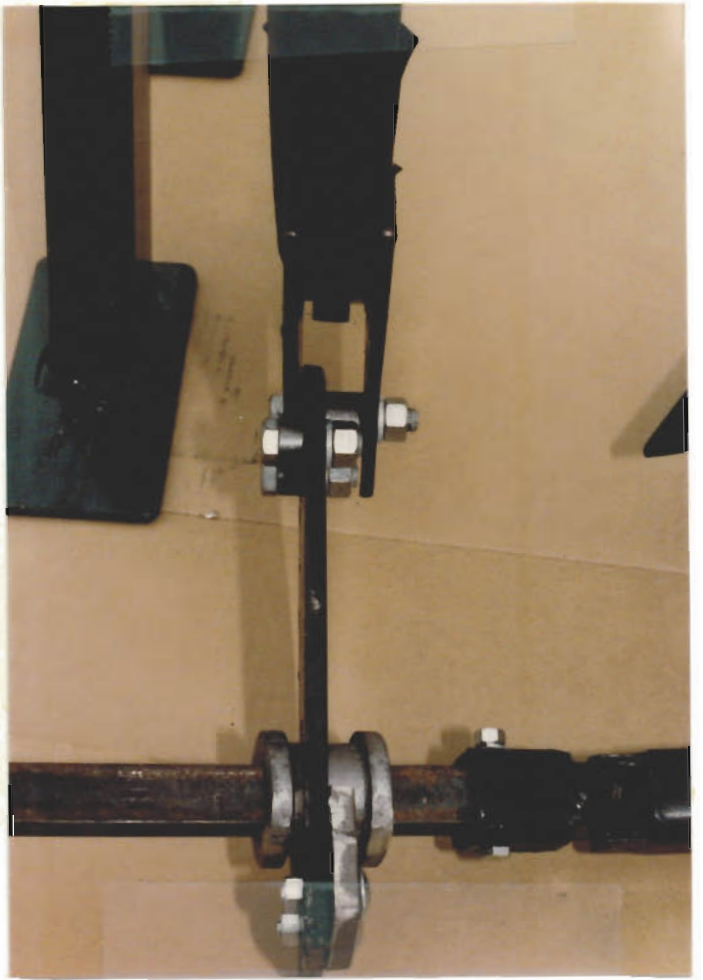
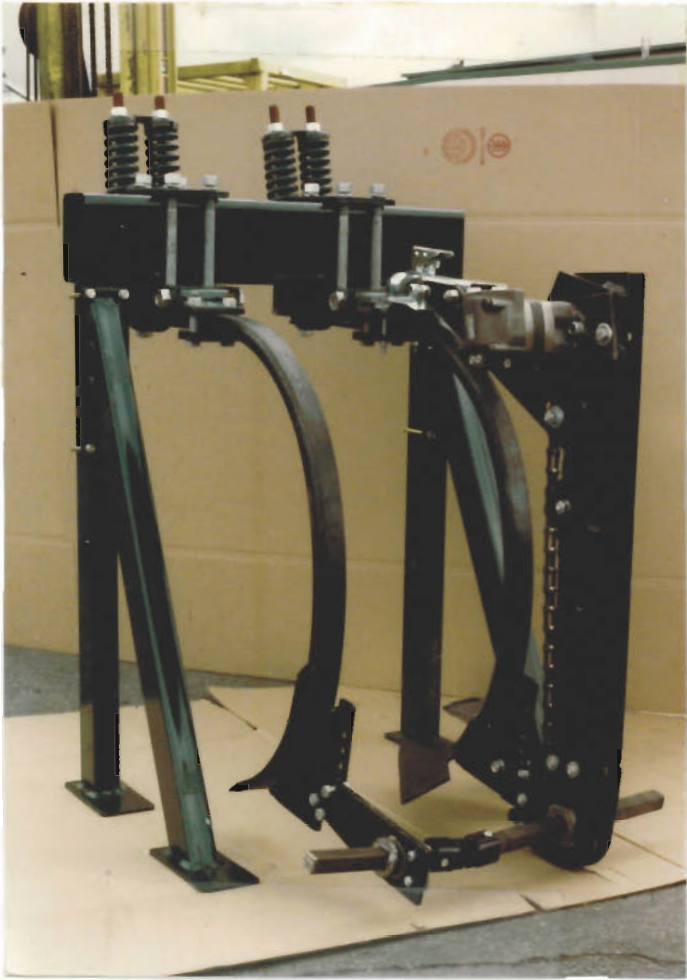


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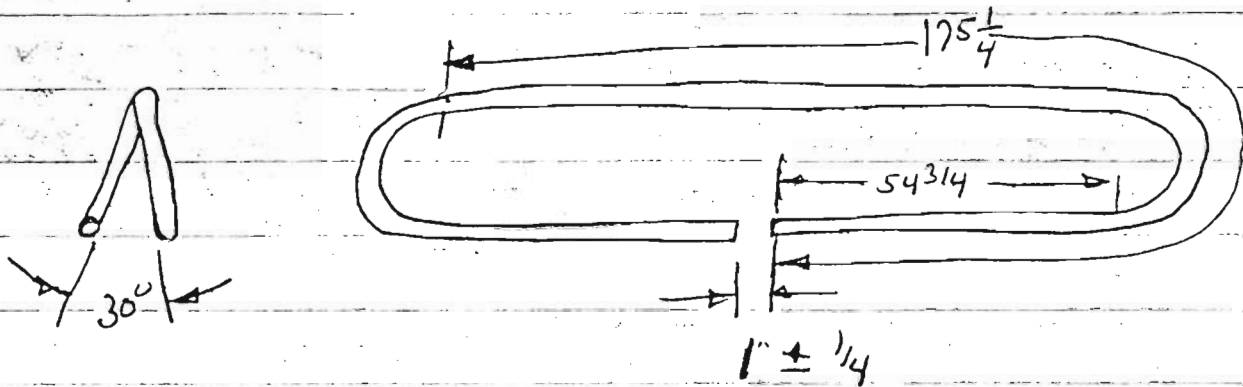
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3/24/85

Subject: BENDING HEAT EXCHANGER TUBE



BENDING PROCEDURE:

1. Check length of tube. Must be $240 \pm \frac{1}{8}$ "
2. Mark tube at $54 \frac{3}{4} \pm \frac{1}{32}$.
3. Mark tube at $175 \frac{1}{4} \pm \frac{1}{32}$.
4. Clamp tube in bender at $54 \frac{3}{4}$ " mark.
5. Bend tube 180° .
6. Release tube, slide through bender to $175 \frac{1}{4}$ " mark.
7. Rotate first bend down 30° and clamp at $175 \frac{1}{4}$ mark.
8. Bend second bend 180° .
9. Release tube from bender. There should be $1 \pm \frac{1}{4}$ space between ends of tube.

1" to 1" stems
Don't use

Row

M E M O

7-16-84

TO: Bill, Bob, Gary, Larry, Lou
FROM: Andy
RE: Tractor Hydraulic System Update

Cat agg tractors (all models) do not come from the factory equipped with a constant flow hydraulics system.

All cats must be equipped with a special hydraulics kit including a special 18 gallon reservoir, Hayden cooler, variable disp pump, detented valves, hoses and fittings etc. The approximate cost of the kit is \$4,368.00. There is a five working day lead time on these kits.

John Deere 8450, 8630,8640, 8650 and 8850 tractors are all compatible with our rod weeder attachment kits. All of the 84, 86, and 88 series tractors employ approximately the same hydraulic system with coolers.

Allis Chalmers 4W-220 and 4W-305 tractors come equipped with constant flow hydraulic systems. The 4W-220 does not come with an oil cooler for the rear bogie which serves the remotes on the tractor. The cooler is optional and can be ordered and is standard on the 4W-305 model. The fluid used to lubricate the rear bogie is also used to run the remotes.

Case 70 Series Tractors need hydraulic cooler kits to make them compatible with our rod weeder attachment. All 90 Series Case tractors are compatible with our rod weeder attachment kits.

All Versatile tractors are compatible with our rod weeder attachment except for some 1976 and 1977 models. Get the model and serial numbers of 1976 and 1977 models and we can check with the factory (they admit they goofed during these model years).

The 1973 Series I Steiger Tigers won't handle continuous duty operation and we haven't had a chance to install a heat exchanger on one. All other Steiger tractors are compatible as long as they are equipped with a heat exchanger.

Big Bud - compatible - all models.