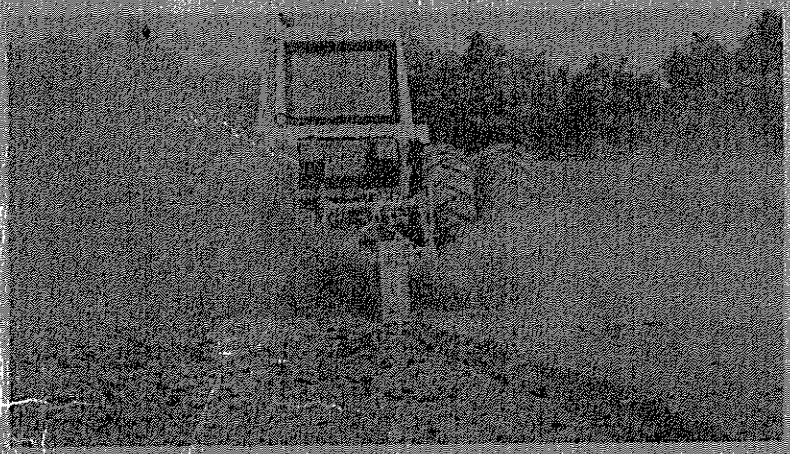
AMCO

PARTS CATALOG
OPERATION—MAINTENANCE—SET-UP INSTRUCTIONS FOR
MODEL PD5-18 and PD10-18 POWER DITCHER



AMCO

PRODUCTS

Portable Elevator Division, Dynamics Corporation of America
No. 1 AMCO Drive, Yazoo City, Mississippi 39194 / 601/746-4464

TO THE PURCHASER

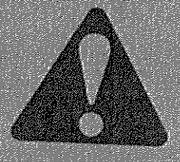
The care you give your new AMCO PD5-18 or PD10-18 Power Ditcher will greatly determine the satisfaction and service life you will obtain from it. By observing the instructions and suggestions in this manual, your AMCO Power Ditcher will serve you well for many years. Please furnish this manual to new owners when the Power Ditcher is sold.

As an Authorized AMCO Dealer, we stock Genuine AMCO Parts, which are manufactured with the same precision and skill as the original equipment. Use only approved replacement parts. Our factory-trained staff is kept fully informed of the most efficient methods of servicing AMCO equipment and is ready and able to assist you.

If you should require additional aid or information, contact us.

YOUR AUTHORIZED AMCO DEALER

OSHA requires that as a farm employer you meet certain safety requirements. Become familiar with and comply with those requirements. Be sure anyone who operates this equipment understands all safety related items. If this ditcher is repainted, be certain new decals are ordered. Decals pertaining to personal safety must be replaced.



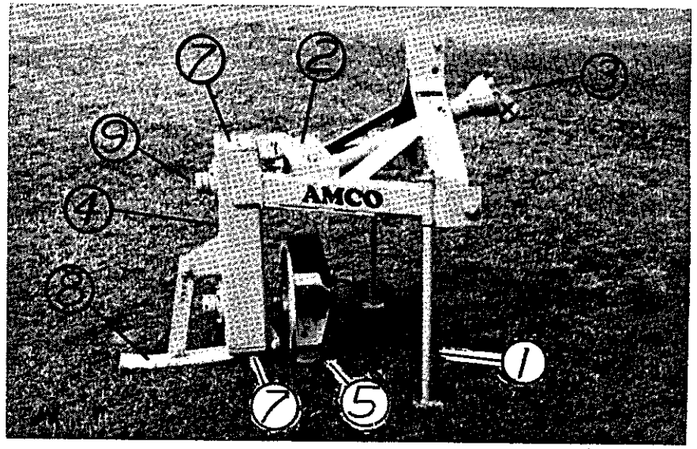
Look for this symbol to point out important safety precautions. It means — ATTENTION! Become alert! Your safety is involved.

To insure efficient and prompt service, please provide the model number and serial number of your AMCO Power Ditcher in all correspondence or contacts.

MODEL NUMBER _____ SERIAL NUMBER _____

Examine the features of your PD5-18 or PD10-18 Power Ditcher

You will find a machine designed by engineers with imagination as well as knowledge of today's field requirements and conditions. You will find features on the AMCO Power Ditcher not found on other ditching machines. You will find the AMCO quality that you have come to trust. Examine the features of the PD5-18 and PD10-18 Power Ditchers below that will give you reliable service and dependability in the field.



1 .....Parking Stands

2 .....Shear Flange Safety Shield

3 .....Shielded Drive Shaft

4 ....All Welded Main Frame and Chain Case

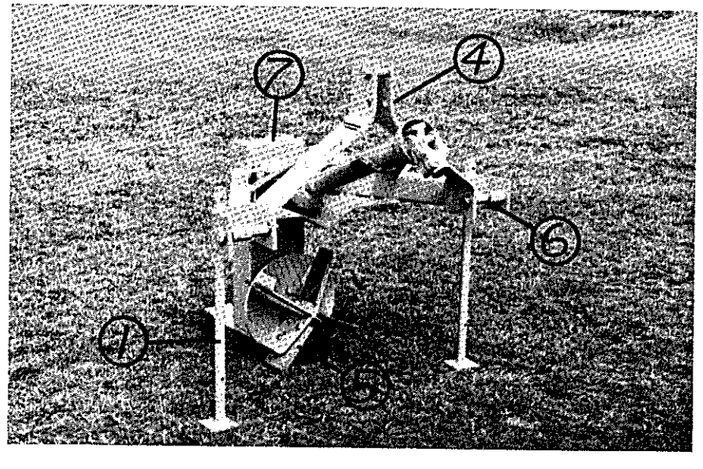
5 .....Adjustable Hardened High Carbon Steel Blades

6 .....Cat. II or III Standard or Quick Coupler Hitch

7 .....Removable End Plates for Ease of Service

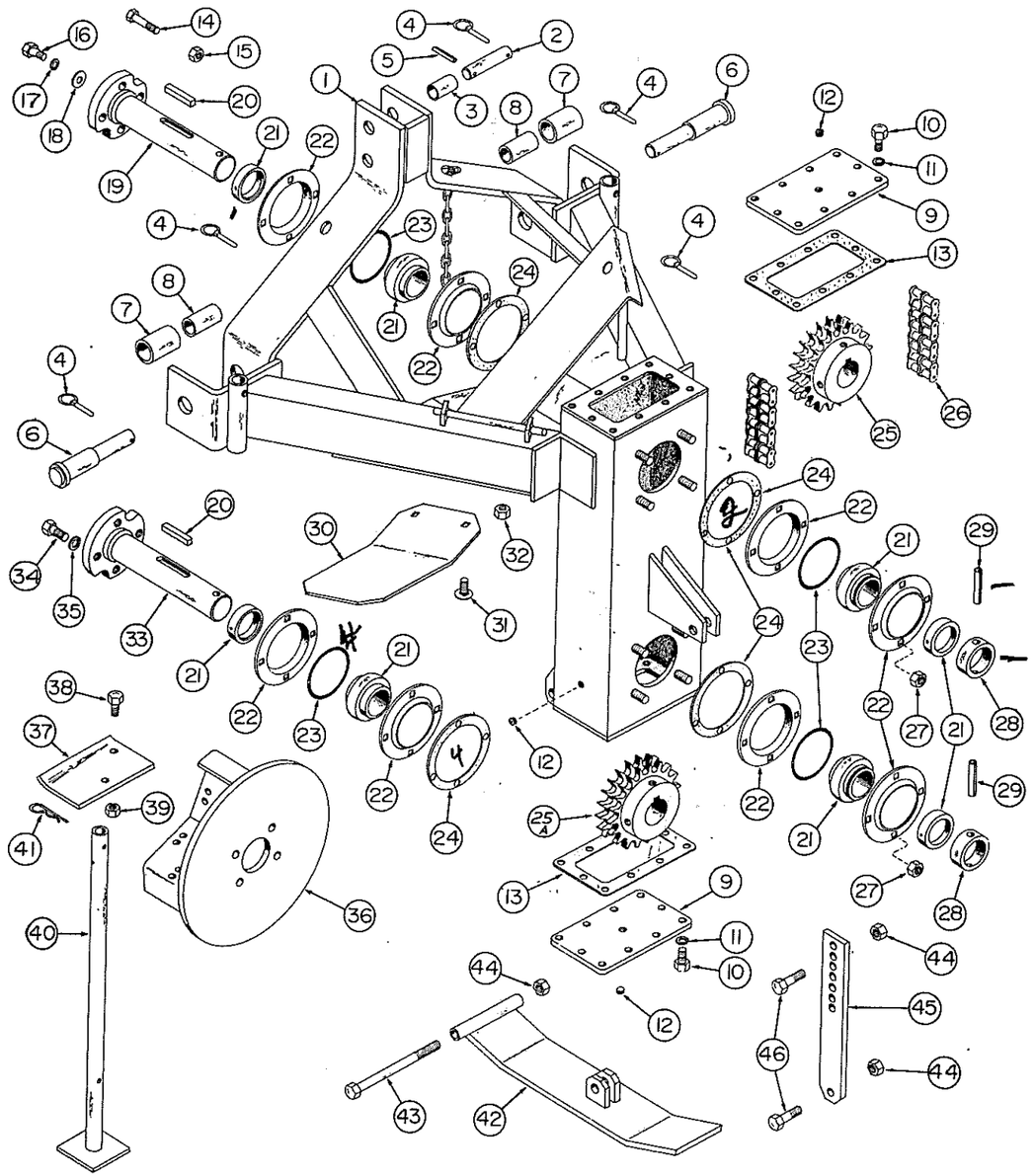
8 .....Adjustable Skid for Depth Control

9 .....Safety Collars on Input and Output Shafts



AMCO #11430
Issued October 1977

AMCO PD5-18, PD10-18
POWER DITCHER

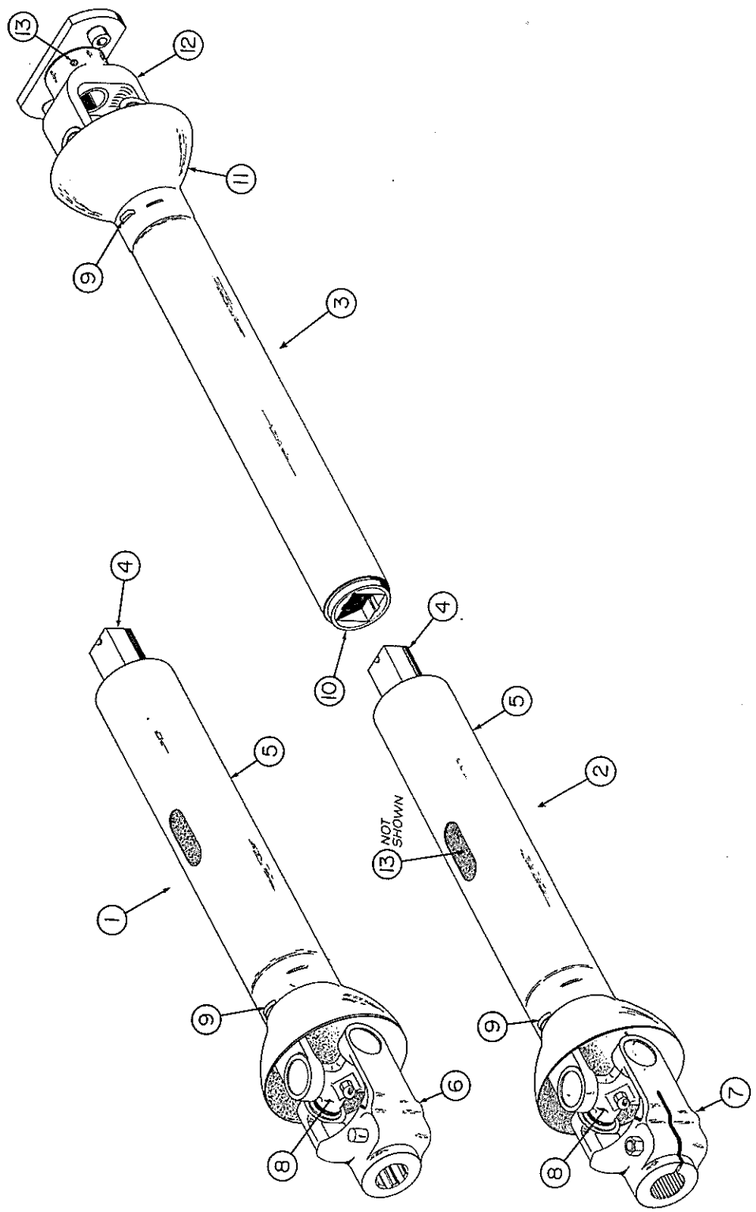


AMCO PD5-18, PD10-18
POWER DITCHER

Ref. No.	Part No.	Description	No. Req'd.
1	0908	**Main Frame**	1
2	7397	**Pin** 1" Dia. C1045 4-3/8 Long	1
3	6570	**Bushing** 1-1/4 O.D. x .109 WT 2 Long	1
4	10317	**Klik Pin** 1/4"	5
5	10910	**Roll Pin** 5/16 x 2-1/4	1
6	0911	**Hitch Pin**	2
7	100673	**Spacer** 2 O.D. x 1/4 WT 2-3/4 Long	2
8	100640	**Bushing** 1-7/16 O.D. x .156 WT 2-3/4 Long	2
9	100616	**End Plate** 3/8 HRMS PL 6 x 10	2
10	10855	**Hex Bolt** 1/2 x 1 NC, PL, GR5	20
11	10786	**Lock Washer** 1/2 PL	20
12	AI 115	✓ **Pipe Plug** 3/8 NPT Socket HD	3
13	11359	✓ **Frame Gasket**	2
14	11160	**Hex Bolt** (Shear Bolt) 3/8 x 2-1/2 NC, PL, GR8	2
15	10509	**Lock Nut** 3/8 NC, PL	2
16	10602	**Hex Bolt** 7/16 x 1 NF	1
17	10619	**Lock Washer** 7/16	1
18	10657	✓ **Washer** (plain) Special 7/16 Type B	1
19	0935	**Input Shaft**	1
20	11295	✓ **Key** 1/2 x 1/2 x 2-3/4 Long (BCA WPS 203 TPNC)	2
21	~~11381~~	✓ **Bearing & Collar** (Fafnir 1203 KPPB4)	4
22	10905	✓ **Flangette** 100 MSB	8
23	11329	✓ **"O" Ring**	4
24	11328	✓ **Flangette Gasket** 100mm	4
25	11375	**Top Sprocket** 16 tooth PD10-18 includes 2-1/2" set screws	1
	11376	**Top Sprocket** 22 tooth PD5-18 includes 2-1/2" set screws	1
25A	11375	**Bottom Sprocket** 16 tooth PD5-18 includes 2-1/2" set screws	1
	11376	**Bottom Sprocket** 22 tooth PD10-18 includes 2-1/2" set screws	1
26	11379	✓ **Chain** #80-2 56 Pitches	1
	11481	**80-2 Connector Link Kit** - Slip Fit (Not Shown)	
		Pin Plate	1
		Link Plate	3
		Cotter Pin	2
27	10395	**Lock Nut** 1/2 NC, PL	16
28	100649 ~~10649~~	**Collar** 3" O.D. x 3/8 WT 1 Long	2
29	11360	**Roll Pin** 1/2 x 3	2
30	100699	**Deflector**	1
31	10708	**Carriage Bolt** 1/2 x 1 NC	2
32	10395	**Lock Nut** 1/2 NC, PL	2
33	0936	**Output Shaft**	1
34	10818	**Hex Bolt** 5/8 x 1-1/2 NC, PL, GR5	4
35	11002	**Lock Washer** 5/8 PL	4
36	0938	**Cutter Head**	1
37	100662	✓ **Blade** 3/8 x 5 C1080 8-5/16 Long	4
38	10705	**Hex Bolt** 1/2 x 1-1/4 NF, GR5	8
39	10498	**Lock Nut** 1/2 NF, PL	8
40	0939	**Parking Stand**	2
41	10830	**Hair Pin** #19 Western Wire	2
42	0937	**Skid**	1
43	11392	**Hex Bolt** 5/8 x 9 NC, PL	1
44	10299	**Lock Nut** 5/8 NC, PL	3
45	100648	**Adjusting Bar** 1/2 x 1-1/2 HRMS 15-1/2 Long	1
46	10663	**Hex Bolt** 5/8 x 2 NC, PL, GR5	2

25 44

AMCO PD5-18, PD10-18
UNIVERSAL DRIVE SHAFT



AMCO PD5-18, PD10-18
UNIVERSAL DRIVE SHAFT

Ref. No.	Part No.	Description	No. Req'd.
	AI 369	**Drive Shaft** Complete 540 RPM PD5-18	1
	AI 370	**Drive Shaft** Complete 1000 RPM PD10-18	1
1	AI 369 M	**Inner Slip** Half Assy. 540 RPM (used on PD5-18)	1
2	AI 370 M	**Inner Slip** Half Assy. 1000 RMP (used on PD10-18)	1
3	AI 369 F	**Outer Slip** Half Assy.	1
4	AI 371	**Yoke & Shaft**	1
5	AI 372	**Outer Shield**	1
6	AI 373	**Tractor Yoke** Assy. 540 RPM (used on PD5-18)	1
7	AI 374	**Clamp Yoke** Assy. 1000 RPM (used on PD10-18)	1
8	AI 375	**Cross & Bearing Kit**	2
		Cross Assy.	1
		Bearing Cup Assy.	4
		Snap Ring	4
9	AI 376	**Shield Bearing**	2
10	AI 377	**Yoke, Tube & Sleeve**	1
11	AI 378	**Inner Shield**	1
12	~~AI 379~~ E	~~**Flange Yoke** W.A.~~	1
13	AI 380	**Grease Fitting**	2
	AI 381	**Center Shield Bearing** (not shown)	1

AMCO PD5-18, PD10-18 POWER DITCHER DECALS

(1)

AMCO

11463
~~10948~~

(2)

WARNING

LOWER OR BLOCK ELEVATED COMPONENTS BEFORE SERVICING OR WHEN LEAVING THE MACHINE.

ELEVATED COMPONENTS CAN FALL AND CAUSE SERIOUS INJURY.

~~11283~~

Replaced by 11741

(3)

WARNING

1. ALLOW NO RIDERS ON IMPLEMENT OR TRACTOR.
2. OPERATE AT SAFE DISTANCE FROM BY-STANDERS.
3. KEEP ALL SHIELDS IN PLACE.
4. BE SURE POWER TAKE OFF IS DISENGAGED AND HAS STOPPED ROTATING BEFORE DISMOUNTING FROM TRACTOR.

10949

DECALS

Ref. No.	Part No.	Description	No. Req'd.
1	11463 ~~10948~~	Decal — AMCO	1
2	11741 ~~11283~~	Decal — Warning	1
3	10949	Decal — Warning — PTO	1
4			

General Specifications

Both the PD5-18 and PD10-18 Power Ditchers are connected to the tractor PTO shaft by means of a shielded Double U-Joint. The 2-3/16" diameter alloy steel in-put and out-put shafts are connected by a #80-2 Double Roller Chain with a continuous oil bath lubrication. The drive system rotates on four Tri-Ply seal ball bearings. The PD5-18 has a 22 tooth in-put sprocket and a 16 tooth out-put sprocket. The PD10-18 has a 16 tooth in-put sprocket and a 22 tooth out-put sprocket. This combination gives a cutter head speed of 740 RPM on both models. The entire drive system is housed inside a 6" x 10" steel case, easily accessible by two removable end plates. The cutter head has four (4) heat treated high carbon steel blades with a cutting diameter adjustable from 18" to 20".

The PD5-18 is designed for use on tractors with 65-110 PTO HP and 540 RPM PTO. The PD10-18 is designed for use on tractors with 80-150 PTO HP and 1000 RPM PTO. Use on tractors with more horsepower could cause high maintenance cost or personal injury.

Safety Suggestions

Never ride or permit others to ride on the tractor or on the POWER DITCHER.

Only one person—the operator—should be permitted on the tractor platform while tractor and POWER DITCHER are in operation.

Never clean, adjust, or lubricate a POWER DITCHER that is in motion.

All hydraulically elevated components must be blocked or lowered to prevent accidents when adjusting or lubricating the POWER DITCHER. Always lower the POWER DITCHER when it is to stand idle.

By-standers should stand clear of discharge when POWER DITCHER is in operation.

When working on POWER DITCHERS, care should be exercised in handling or tightening bolts near blades to avoid injury.

Always place the POWER DITCHER on a level area when disconnecting the POWER DITCHER from the tractor. Always use the two parking stands.

Never stand between a tractor and machine when hitching unless all the controls are in neutral and the brakes are locked.

Always keep all shields in place.

Remember, a careful operator is always the best insurance against an accident.

OSHA requires that as a farm employer you meet certain safety requirements. Become familiar with and comply with those requirements. Be certain anyone who operates this machine understands all safety related items. If this machine is repainted, be certain new decals are ordered. Decals pertaining to personal safety must be replaced.

Assembly

The PD5-18 and PD10-18 Power Ditchers come from the factory completely assembled except for the parking stands. Remove the parking stands from the main frame and insert them into the parking stand guides which are located on the sides of the main frame. Insert the hair pin clips through the parking stands. Remove the wire holding the universal drive shaft to the main frame and rest the drive shaft on the support chain. The power ditcher is now fully assembled and ready for attachment to the tractor.

Lubrication

Check the oil level when the power ditcher is in an upright position. This is done by removing the check plug on the side of the chain case. The oil should be level with this hole. The power ditcher was filled with three (3) quarts of Kendall SCL-SAE 90 WT oil at the factory. An equivalent oil should be used for replacement. This is added through the plug in the top end plate.

The universal drive shaft should be lubricated with a good grade of Lithium Soap Base Grease every 25 to 50 hours of operation there are four (4) grease fittings to grease as shown in Figure 1.

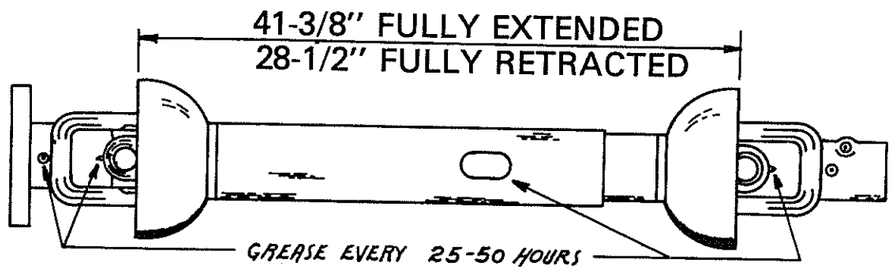


FIG. 1

Attachment

Both the PD5-18 and PD10-18 Power Ditchers are designed for use on a catagory II or III three point linkage or a catagory II or III quick coupler. A catagory II three point linkage attaches to the upper top hole with 1" diameter top pin. The lower links fit the 1-1/8" diameter portion of the lower hitch pins. A catagory II quick coupler is attached to the lower top hole using the 1" diameter top pin and 1-1/2" O.D. bushing. The lower hitch attaches to the lower hitch pins using the 1-7/16" O.D. bushing over the 1-1/8" diameter portion of the pin with the 2" O.D. spacer over the 1-7/16" diameter portion of the pin. A catagory III three point linkage and quick coupler attaches in the upper top hole with the 1" diameter top pin and the 1-1/4" O.D. bushing. The lower links fit the 1-7/16" diameter portion of the lower hitch pins with the 1-7/16" O.D. bushing and the 2" O.D. spacer both located over the 1-1/8" diameter portion of the hitch pin. All pins should then be secured with the klik pins.

The yoke of the universal drive shaft is then attached to the PTO shaft of the tractor and secured with the bolt and nut in the yoke on the PD10-18, 1000 RPM, drive shaft and with the slip pin in the yoke on the PD5-18, 540 RPM driveshaft.

The Tractor's Top Lift Link should be extended or retracted until the Chain Case is vertical when lowered to the normal operating position. The Universal Drive Shaft must have an equal offset in each joint. See Figure 2. As an example, if the front joint is offset 6 degrees the rear joint must also have a 6 degree offset. Should the rear joint be offset 4 degrees or 8 degrees the cutter head will not run at a constant speed and will vibrate excessively. Operating the Ditcher in this condition will cause drive shaft, shear bolt and chain failures.

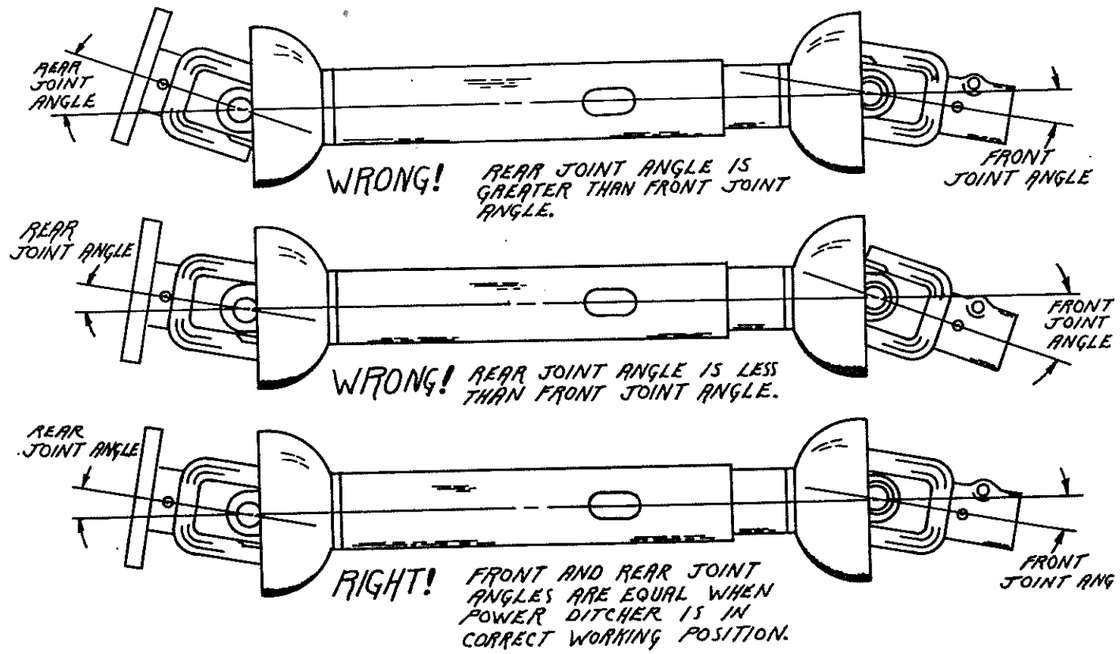


FIG. 2

Stop the tractor and disengage the PTO before making any adjustments. Keep all shields in place.

Operation

The Power Ditcher should be lifted from the ground and the parking stands raised and secured with the hair pin clips. If the tractor is equipped with a float position on the three (3) point lift, this should be used. This will allow the skid to control the depth of cut. To get a deeper ditch, raise the skid by means of the adjusting bar at the rear of the chain case. To get a shallower ditch, lower the skid by means of the adjusting bar.

The cutting diameter may be adjusted by moving the location of the blades on the cutter head. Location in the inside set of holes will give an 18" diameter cut. Locating the blades in the outside set of holes will give a 20" diameter cut.

Raise and lower the ditcher slowly to check engagement of the drive shaft. At least 6" of the square shaft should be engaged in the tubular portion of the drive shaft. Also check to be sure the drive shaft will not hit the tractor drawbar and is not binding when rotated. Be sure the safety shield is secured over the shear flange.

The ditcher should be lowered just above the ground and the PTO engaged. The PTO should not be engaged with the blades resting on the ground. This sudden shock could result in broken shear bolts, chain or drive shaft. After the cutter head has started rotating, set the engine speed for 540 or 1000 RPM PTO speed. Start the forward motion of the tractor and lower the ditcher into the ground. Forward speed and depth of cut should be matched to soil conditions.

When backing or turning, the ditcher should be raised to clear the ground. The ditcher should never be raised to maximum height with the PTO engaged.

Maintenance Instructions

I. Daily or Every Ten [10] Hours of Operation:

1. Visually check chain case for oil leaks.
2. Visually inspect for loose or missing bolts.
3. Inspect for loose or damaged blades.
4. Visually inspect entire POWER DITCHER for worn, loose, damaged or missing parts.

II. Weekly or Every Fifty [50] Hours of Operation:

1. Check chain case oil level. Use a good grade of clean 90 weight oil when adding oil.
2. Grease universal drive shaft. Use a good grade of clean No. 2 lithium soap base grease.

III. Every Season or Every 250 Hours of Operation:

1. Inspect for worn or damaged parts. Replace all worn or damaged parts.
2. Remove oil from chain case and flush case with kerosene or diesel fuel to remove contamination. Replace oil with a good grade of clean 90 weight oil.
3. Inspect chain, sprockets and bearings for wear. Replace worn or damaged parts.
4. Inspect universal drive shaft for worn or damaged parts. Replace worn or damaged parts.
5. Inspect blades for wear. Replace blades if worn or damaged.
6. Thoroughly inspect entire POWER DITCHER for missing, worn or damaged parts. Repair or replace these parts during the "off-season" to assure dependable, trouble-free performance during the season of use.

Service Checkpoints

If it should become necessary to perform service work on your ditcher, here are some points to check. Remove the bearing eccentric lock collars by loosening against the direction of rotation of the shaft. (Clockwise on the front, counter clockwise on the rear). These lock collars and the sprockets are held in place with set screws. The sprockets should be located with the shoulder portion flush against the inner race of both rear bearings for proper chain alignment. Locktite applied to the outside and the bore of the bearings will help prevent leaks. A drop of locktite on all set screws will prevent them vibrating loose during operation. A gasket sealant such as Permatex on all gaskets will also help prevent leaks.