

PRODUCT HANDBOOK

FORD

MOLDBOARD PLOWS

- PART II -



Tractor and Implement Division
FORD MOTOR COMPANY
Birmingham Michigan

More Sales Power for YOU!



Here's information to help you sell more and help customers get maximum performance from the Ford line of moldboard plows.

Look over the illustrations and descriptive material on the following pages. Get the information firmly in mind. It will help you give your customers what they want in the way of good plow performance.

Use this manual and the silent slidefilm "Ford Moldboard Plows—Part II" to acquaint others with this important plow adjustment story. Assure yourself of doing a good job by following these suggestions.

1. Go through this manual and the slidefilm several times to get an over-all view of the content. Become familiar enough with it so you can tell the story "from the screen."
2. Stand to the viewers left of the screen and use a suitable pointer to direct the audiences attention to exactly what is being discussed.
3. Take your time in pointing out and talking about what is shown in each frame as it is projected on the screen.
4. Where necessary, be sure to orient the audience as to what they are looking at and where the object or part shown is being viewed from, rear, top, etc.
5. Ask the audience if there are any questions before going on to the next frame. This will help you make sure the group understands.
6. Stress the retail merchandising benefits of knowing the Ford Plow Line and demonstrating plow performance. Remember—"You're generally DOWN on what you're not UP on."
7. Use the questions provided on the back page of this manual as an aid in reviewing, immediately after showing the film.
8. Use tractor and plow for "walk through" of preliminary and field adjustments before going to the field.
9. Plan your program so, through field work, experience can be gained in applying the preparation and adjustment steps presented in the film.
10. This film can be shown in total or in part as desired according to a particular meeting situation. There are four sections in the film: (1) Mounted plows with the Ford tractor; (2) mounted plows with the Fordson Major Diesel tractor; (3) the semi-mounted plow and (4) the 2-way, 2-furrow plow, any one or all of which can be used as the basis for a meeting.

KNOW MORE — SELL MORE

SLIDEFILM—FORD MOLDBOARD PLOWS—PART II

NOTE: This slidefilm is a sequel to the slidefilm, Ford Moldboard Plows, Part I (ED 6533) which presents basic merchandising information on Ford Moldboard Plows.

LEADER'S GUIDE

Every person who sells and services plows should be in a position to help farmers with their plowing problems. There is one positive way to be able to do this: Know your Ford line of plows, bottoms, and accessories. Understand how each performs under varying conditions and how to make them perform as they are intended.

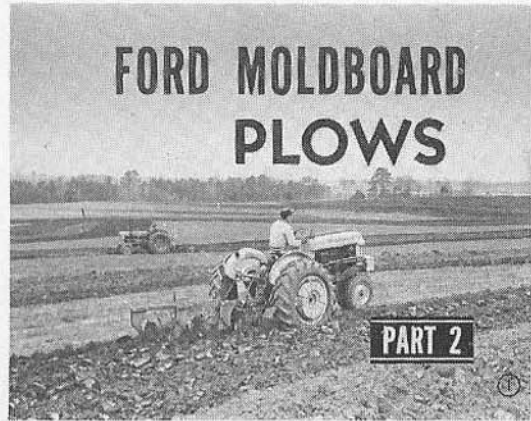
Knowing the Ford plow line and conditions in your area, will put you in a position to sell a farmer the plow best suited for his land and to give him effective help in getting the best possible performance from his plow.

We have a slidefilm which will help us gain basic information essential to effectively preparing and operating the Ford line of moldboard plows. Let's look at the film.

LIGHTS OUT—FILM ON

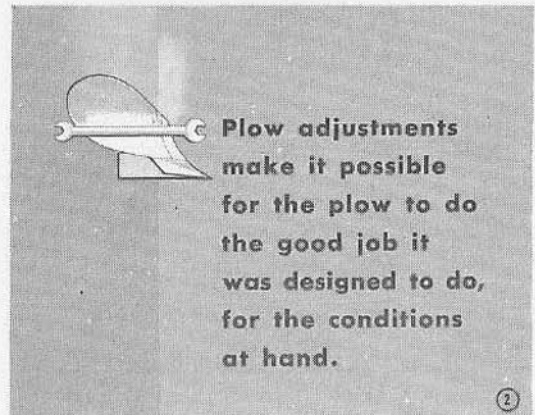
Ford Moldboard Plows, Part II, Adjustment and Operation

FORD MOLDBOARD PLOWS PART II



PLOW ADJUSTMENTS make it possible for the plow to do the good job it was designed to do, for the conditions at hand.

You can pick a unit from the Ford line of plows that will do a good job economically and easily in most any type of plowing when the plow is properly adjusted.



PLOW ADJUSTMENTS MAKE THE DIFFERENCE

GOOD PLOWING

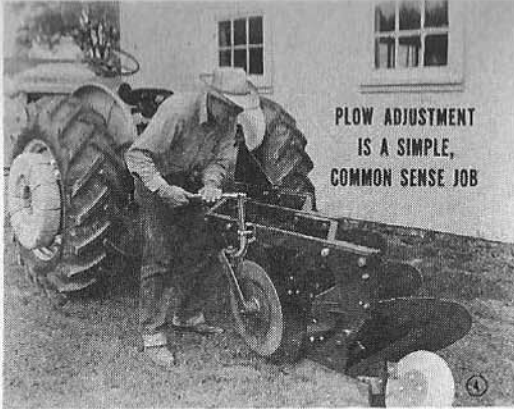


POOR PLOWING



PLOW ADJUSTMENT MAKES THE DIFFERENCE between good plowing and poor plowing. And it can mean greater tractor fuel economy because of lighter draft and better scouring.

Make sure each owner knows how to properly adjust his Ford plow. This will help assure owner satisfaction and future business.



PLOW ADJUSTMENT IS A SIMPLE, COMMON SENSE JOB

PLOW ADJUSTMENT IS A SIMPLE COMMON SENSE JOB. No magic is needed. Adjustments on Ford moldboard plows are easy to make.



ADJUSTMENTS REQUIRED WILL VARY AS CONDITIONS VARY

THE ADJUSTMENTS REQUIRED WILL VARY AS THE CONDITIONS VARY.

A plow can be put into proper adjustment only in relation to the conditions at hand. Differences in soil structure, moisture content, roots in the soil etc., are just a few of the things that require different degrees of adjustment on a plow.

Preparing and adjusting equipment for good plowing is achieved in two stages:

1 Preliminary Preparation

Preparing tractor and plow to work together as a unit

2 Field Adjustments

Adjusting to meet actual field conditions.

PREPARING AND ADJUSTING EQUIPMENT FOR GOOD PLOWING IS ACHIEVED IN TWO STAGES:

1. Preliminary Preparation—preparing tractor and plow to work together as a unit.
2. Field adjustments—adjusting to meet actual field conditions.

MAKE THESE PRELIMINARY PREPARATIONS ON THE FORD TRACTOR:

- Space wheels as recommended in A & O Manual.
- Add wheel weights and liquid ballast to all wheels.
- Set top link to proper starting length and check main control spring tension.
- Set hydraulic system in constant draft or implement position control as desired.
- Bring right hand lift rod to the level mark.

Let's consider each of these points, one at a time.

TRACTOR WHEELS MUST BE PROPERLY SPACED FOR THE PLOW BEING USED in order to allow the proper width of cut of the front bottom and to take advantage of the favorable draft characteristics built into all Ford Plows. (Refer to wheel spacing chart in Assembly and Operating Manual for recommended settings.)

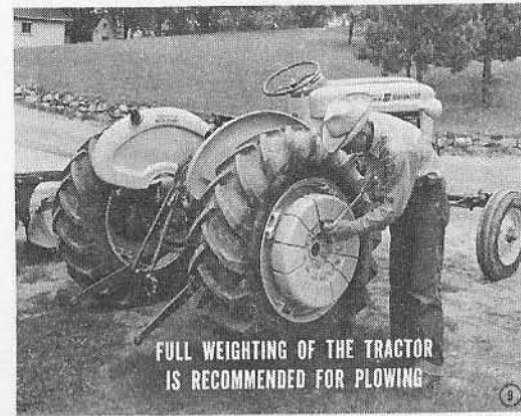
Make these preliminary preparations on the Ford tractor:

- Space wheels as recommended in A and O Manual
- Add wheel weights and liquid ballast to all wheels
- Set top link to proper starting length and check main control spring tension
- Set hydraulic system in constant draft or implement position control as desired
- Bring right hand lift rod to the level mark

①



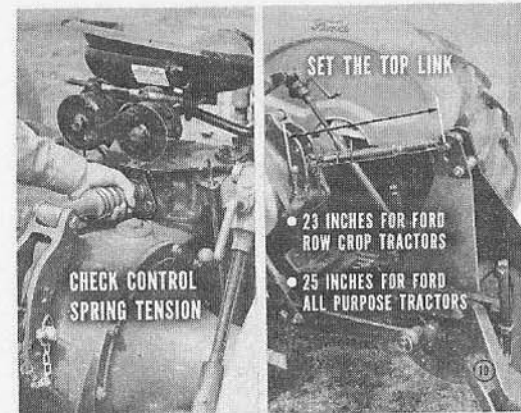
FULL WEIGHTING OF THE TRACTOR IS RECOMMENDED FOR PLOWING because plowing is a high draft operation and good traction is especially important. Fluid weighting of the front and rear tires is essential, and for most conditions the use of a full complement of front and rear wheel weights will help assure getting maximum drawbar pull from the tractor.



Next, **CHECK THE CONTROL SPRING TENSION AND SET THE TOP LINK.**

There should be just enough tension on the main control spring to prevent end-play, but still permit the spring to be turned when gripped firmly by the fingers as shown at the left.

While at the rear of the tractor, either remove the swinging drawbar or swing it to the left and secure it with a pin to prevent interference with the plow.



The top link is attached to the tractor rocker arm in the proper hole for plowing. The link should be set approximately 23 inches center to center of pins for Ford Row Crop Tractors; 25 inches for Ford All Purpose Tractors. These are starting settings and should provide sufficient penetration to start plowing prior to making adjustments in the field. Now, let's move to our hydraulic controls.

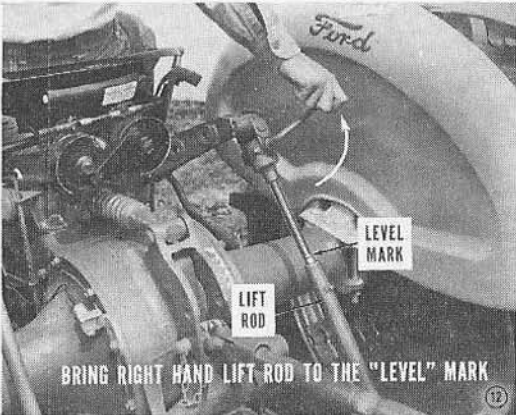


MOVE STOP TO BOTTOM OF QUADRANT AND SET SELECTOR LEVER.

Here you see the touch control lever, the quadrant stop and the selector lever.

Move the stop to the bottom of the quadrant so it will be out of the way until the position of the touch control lever has been established in the field. The selector lever is normally set in the "draft control" position for plowing. However, implement position

control may be used to advantage in plowing flat land with varying soil conditions.



After the plow is attached to the tractor, BRING THE RIGHT HAND LIFT ROD TO THE LEVEL MARK. This setting may vary depending on the type of opening desired, but with the right rod at the level mark the plow will be approximately level for starting the field adjustments.

So much for preparing the tractor.



NOW . . .

Let's consider the plow.

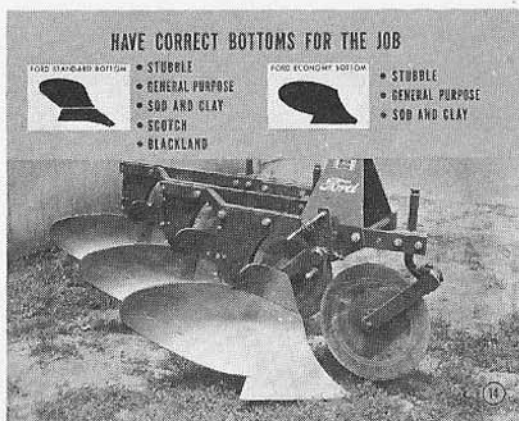
FIRST . . .

HAVE THE CORRECT BOTTOMS FOR THE JOB.

The Ford standard bottoms include Stubble, General Purpose, Sod and Clay, Scotch and Blackland bottoms. They have heavy duty crucible, soft center or cast shares and are recommended for use in the more difficult plowing conditions.

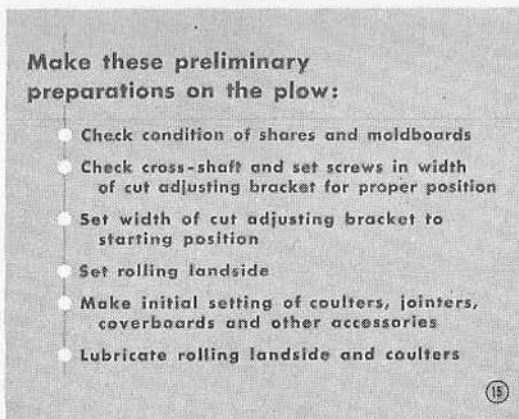
The Ford Economy bottoms are available in Stubble, General Purpose and Sod and Clay types in a full range of sizes. These bottoms have replaceable shins and “razor blade shares”. Economy bottoms are well suited for use in most plowing conditions. (Review types of bottoms and their application as appropriate for group.)

Now, with a plow equipped with the proper bottoms for the job, let's proceed with our preliminary preparations.



MAKE THESE PRELIMINARY PREPARATIONS ON THE PLOW:

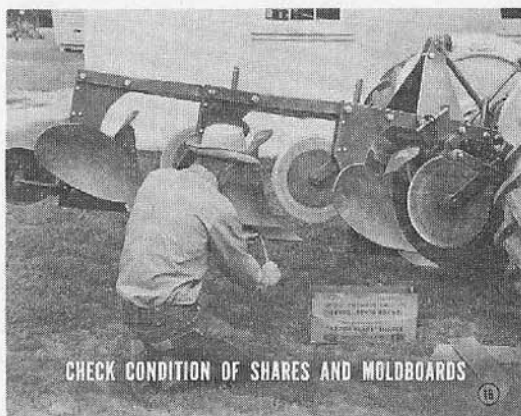
- Check conditions of shares and moldboards.
- Check cross-shaft and set screws in width of cut adjusting bracket for proper position.
- Set width of cut adjusting bracket to starting position.
- Set rolling landside.
- Make initial setting of coulters, jointers, coverboards—other accessories.
- Lubricate rolling landside and coulters.

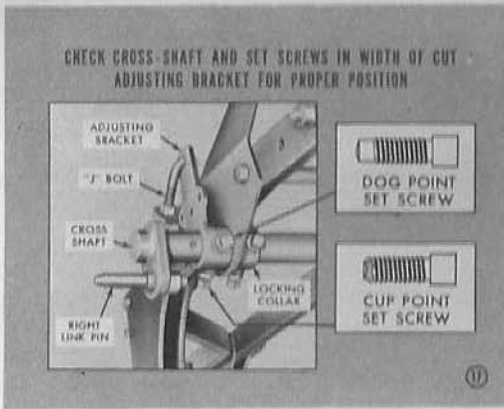


Let's look at these preliminary preparations one at a time.

First . . .

CHECK THE CONDITION OF THE SHARES AND MOLDBOARDS. Rust or paint should be removed from the bottoms. If the shares are worn, bent or broken replace shares on economy bottoms; rework or replace the shares on standard bottoms.

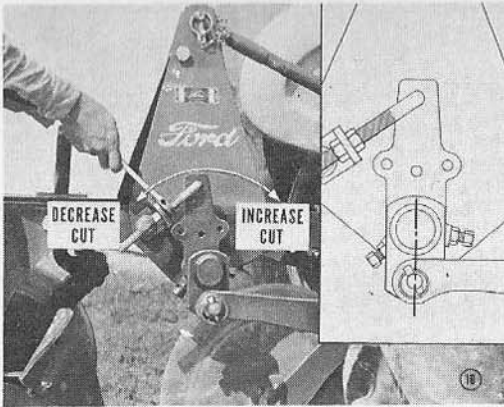




CHECK THE CROSS-SHAFT AND SET SCREWS IN THE WIDTH OF CUT ADJUSTING BRACKET FOR PROPER POSITION.

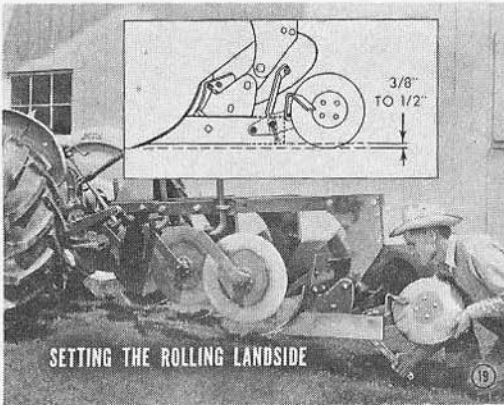
Here we see the adjusting bracket, the J-bolt, cross-shaft, right link pin, locking collar, dog point set screw, and cup point set screw.

Normally, the cross-shaft is located so the cup point set screw is to the rear as shown, and the dog point set screw is in the forward hole of the bracket and seated in the second hole from the end of the shaft. The locking collar holds the cross-shaft from shifting.

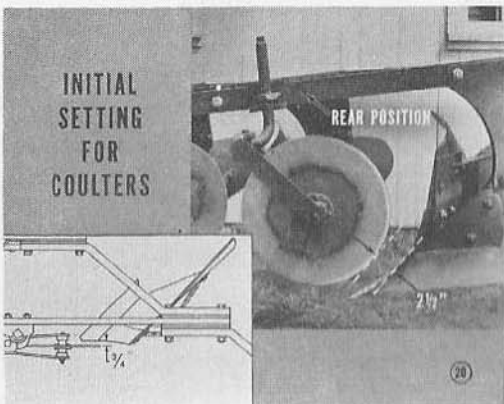


For an initial width of cut setting, the plow link pin should be directly below the center of the cross-shaft as shown at the right of the picture. Width of cut is decreased by rotating the cross-shaft to the rear; increased by rotating the cross-shaft forward.

On plows equipped with the width of cut adjusting lever accessory, the lever is used in place of the J-bolt to quickly rotate the cross-shaft backward or forward.



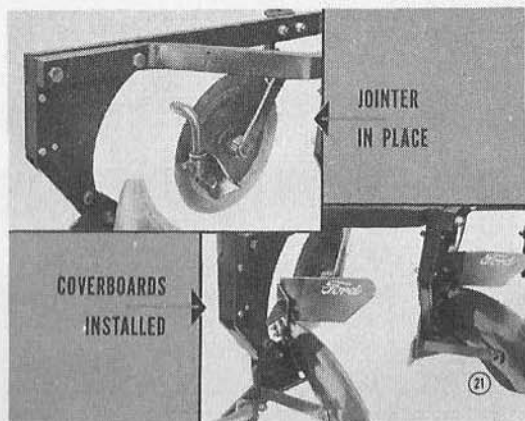
The next preliminary adjustment is SETTING THE ROLLING LANDSIDE. It should be set $\frac{3}{8}$ to $\frac{1}{2}$ inch below the level of the rear fixed landside. Since the set screw acts as a stop, preventing the rolling landside from raising, it is very important that the set screw be firmly against the cross bolt when the desired position is obtained. With the set screw in place, tighten the nuts on the cross bolts. (Explain action of the set screw—how it draws the rolling landside down.)



Now, let's look at the INITIAL SETTING FOR THE COULTERS for average conditions. The initial depth setting for coulters is $2\frac{1}{2}$ inches above nearest part of shin, and for width, $\frac{3}{4}$ inch to the left of the center of the shin. The coulters should point to the top corner of the shin. Make sure all coulters are set the same and securely tightened. Coulters are normally used in the forward position. The rear position is used when penetration is a problem.

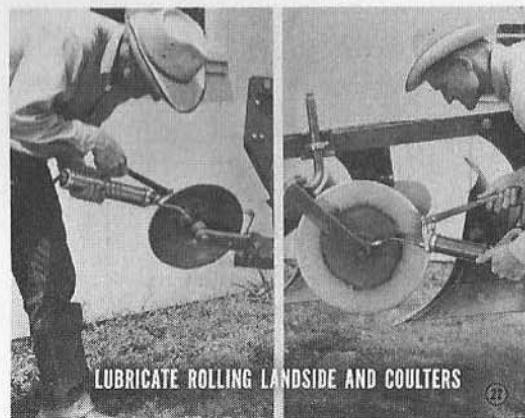
The upper picture shows JOINTER IN PLACE. The lower picture shows COVERBOARDS INSTALLED. If jointers are used, they should be set so the point lightly touches the coulter blade to help avoid picking up trash. Jointers should be set to cut from 1 to 3" deep.

If coverboards are used, be sure they are in proper position and that the wedge brace is against the plow as shown.



LUBRICATE THE ROLLING LANDSIDE AND COULTERS. This is another important plow preparation step. This should be done at least once a day.

So much for preliminary preparations on the Ford high-clearance plow.

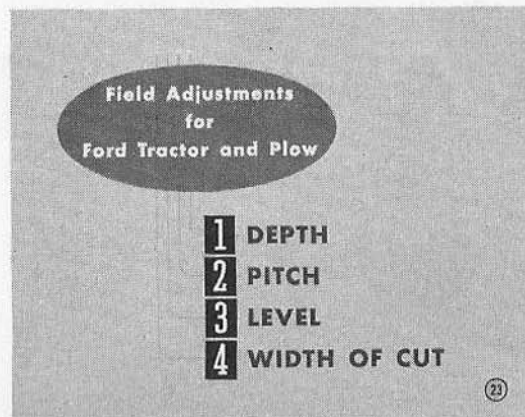


Now let's turn our attention to the FIELD ADJUSTMENTS FOR THE FORD TRACTOR AND PLOW.

1. Depth
2. Pitch
3. Level
4. Width of Cut

Make these adjustments after the land has been opened, and in this sequence.

Here is why these basic adjustments should be made in this sequence.



STEP 1. ADJUST FOR DEPTH first because of its effect on the remaining adjustments.

- a. Pitch cannot be set until the desired depth is achieved because the ideal top link setting varies with depth.
- b. Level cannot be set until the right hand tractor wheel is running in a furrow of desired depth. A shallower or deeper furrow will change the level of the plow.
- c. Width of cut—At different depths, different width of cut settings are required to maintain uniform cut because depth influences side forces on the moldboards.





GET THE DESIRED DEPTH AND SET THE STOP ON THE QUADRANT. Lower the plow into the ground until the rear bottom is working at the desired depth. For best moldboard "action" this depth should be about one-half the width of the furrow; 7 to 8 inches for a 14 inch plow.

When the rear bottom is working at the desired depth, set the stop on the quadrant to provide a reference point for the touch control lever.

Remember that changes in draft may cause the tractor hydraulic system to automatically change the plow depth. Therefore, it may be necessary to occasionally change the position of the lever, to maintain the desired depth, during the balance of the adjustment sequence.



STEP 2. ADJUST FOR PITCH NEXT BECAUSE IT AFFECTS LEVEL AND WIDTH OF CUT.

When the top link is set at the proper length, it will be easier to recognize whether or not the plow is level, when the leveling adjustment is made.

A top link set too long will cause the front bottom to run shallow. If set too short, it will cause the front bottom to run too deep. This, of course, effects the level of the plow. Likewise, either condition affects draft and side forces and therefore, affects the width of cut.



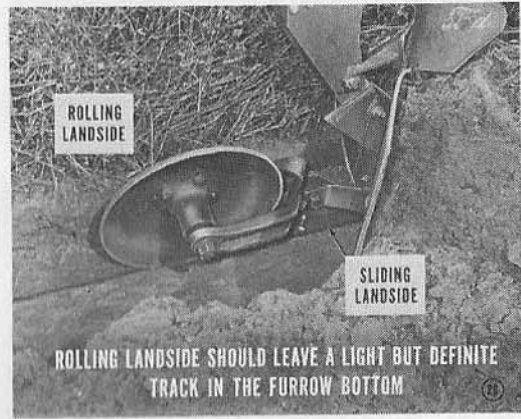
LENGTHEN THE TOP LINK UNTIL THE ROLLING LANDSIDE RUNS AT BOTTOM OF FURROW. With the rear bottom at the desired depth, lengthen the top link until the rolling landside leaves a light, but definite track in the furrow bottom.

As a check on the pitch setting, the plow should go deeper when the hydraulic lever is lowered beyond the stop. If not, shorten the top link slightly.

While THE ROLLING LANDSIDE SHOULD LEAVE A LIGHT BUT DEFINITE TRACK IN THE FURROW BOTTOM, the SLIDING landside should NOT ride on the furrow bottom when the plow is in operation.

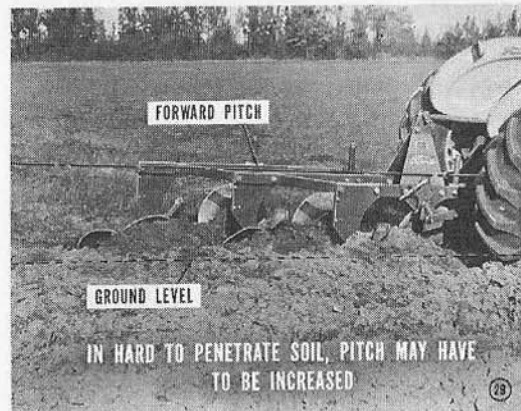
By presetting the rolling landside $\frac{3}{8}$ to $\frac{1}{2}$ inch below the sliding landside and watching for the track in the furrow bottom, you have an indicator which tells you when the top link is long enough.

So far we have checked for maximum top link length and know that the plow is not "on its nose" any more than necessary to keep it in the ground.



IN HARD TO PENETRATE SOIL, PITCH MAY HAVE TO BE INCREASED somewhat as illustrated.

The amount of pitch necessary is influenced greatly by soil type and condition, although the plow should not run "on its nose" any more than absolutely necessary. If the top link is shortened much, the rolling landside may need to be lowered.



IN LIGHT SOIL, LESS PITCH MAY BE NEEDED. However, a plow should never be run on its heel. Sufficient pitch must be maintained to keep the plow at working depth in any harder-to-penetrate spots in the field.





STEP 3. ADJUST FOR LEVEL NEXT BECAUSE LEVEL AFFECTS WIDTH OF CUT. The insert shows a plow that is obviously high on the right. The main illustration shows a plow properly leveled. Note as you look across the top of the plow frame from side-to-side, that the plow is level with the land.

If the front bottom is cutting either shallow, or deep, side forces are set up which affect the width of cut. Therefore, the plow

must be leveled before the width of cut can be set.

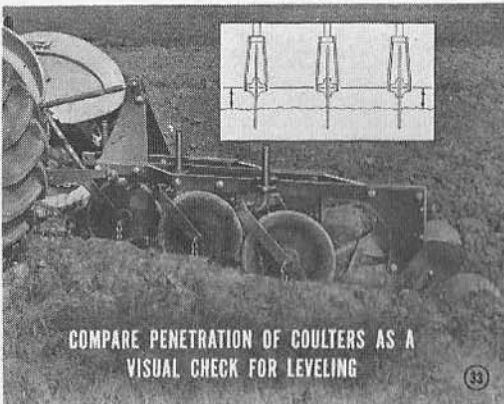
Naturally, the tractor right rear wheel must be in a furrow the same depth as that being plowed before level can be effectively checked.

LEVEL CANNOT BE JUDGED ENTIRELY BY THE APPEARANCE OF THE FURROWS.



A high or low furrow thrown by the front bottom only indicates a greater or lesser volume of soil is coming off that bottom. This can be due to faulty width-of-cut adjustment, as is the case in this picture. Likewise, the plowing job could look good on top as a result of the front bottom throwing the same volume of soil as other bottoms. However, this could happen with a shallow front bottom taking a wide cut, or a deep front bottom taking a narrow cut. A plow is not operating efficiently unless it is truly level.

COMPARE PENETRATION OF COULTERS AS VISUAL CHECK FOR LEVELING.



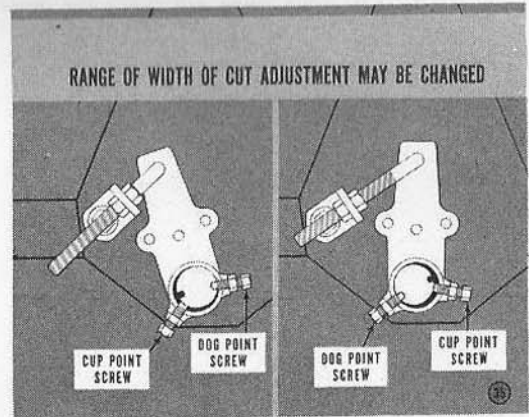
With proper pitch adjustment and coulter all set at the same depth, the distance from ground level to each hub should be identical when the plow is level. The inset shows how the coulter should appear in relation to the ground when the plow is level.

STEP 4. ADJUST FOR WIDTH OF CUT. With the tractor wheel against the furrow wall, check the width of furrow slice of the front bottom. This should be the same as the size of the plow frame—14 inch plow, 14 inch furrow. If it is necessary to rotate the cross-shaft very much to obtain the proper width of cut, the level of the plow should be rechecked since the eccentric action of the cross shaft can raise or lower the front bottom slightly.



THE RANGE OF THE WIDTH OF CUT ADJUSTMENT MAY BE CHANGED. If it becomes necessary to decrease the Width of Cut more than is allowed by the starting range of adjustment shown on the left, proceed as follows:

- Reverse the positions of the set screws in the bracket as shown in the two illustrations.
- Rotate the bracket forward an inch or so until the dog point set screw enters the rear hole in the cross shaft as shown on the right.
- Tighten the set screws. Always tighten the cup point screw securely before tightening the dog point screw to reduce the possibility of shearing the dog point.



Along with the other basic adjustments, **CHECK COULTERS FOR PROPER OPERATION.** They should leave a clean, straight furrow wall. They should be set just deep enough to cut cleanly through trash, and off-set just enough to relieve the plow shin from cutting. Uniform setting is important since it can affect the volume of soil turned by each bottom.





SET JOINTERS TO COVER TRASH PROPERLY. Jointers are particularly useful in shallow plowing when the furrow slice does not ride high enough to make effective use of coverboards.

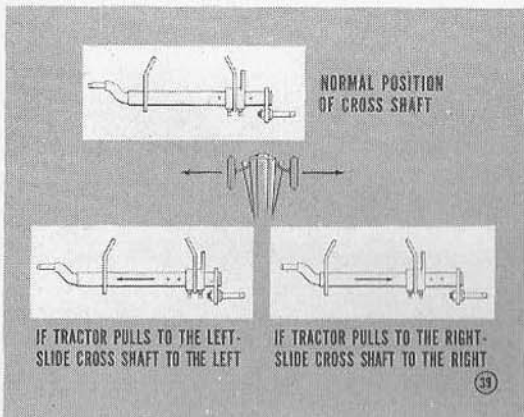
If jointers are used, they should be set just deep enough to cut a small ribbon off the inside corner of the furrow to keep trash from showing at the furrow crease. Jointers should be set uniformly because they produce side forces which may effect coulter position.

And coulters which are not set uniformly, can cause side forces which could make the tractor pull to one side. Be sure the coulters are properly set before you . . .



CHECK TRACTOR STEERING. After all other adjustments have been properly made, check tractor steering.

If the plow has been properly adjusted, and the tractor wheel spacing is correct, the tractor should steer itself down the furrow. If the front of the tractor tends to pull to the right or left, the following adjustment can be made.



THE NORMAL POSITION OF THE CROSS SHAFT is as shown here at the top of the picture.

If the tractor pulls to the left, slide the cross shaft to the left. If the tractor pulls to the right, slide the cross shaft to the right. In other words, slide the shaft in the same direction the front of the tractor tends to pull.

If the cross shaft is moved, be sure the bracket set screws are properly located with the dog point screw in the hole, the cup point screw against the shaft. Re-check the width of cut after the cross shaft is changed.

BY WAY OF REVIEW, HERE ARE THE BASIC FIELD ADJUSTMENTS FOR THE FORD TRACTOR AND HIGH CLEARANCE MOLDBOARD PLOWS.

1. Depth—the distance from the surface of the land to the furrow bottom. Depth is set with the touch control lever.
2. Pitch—allows penetration, keeps plow in the ground. This adjustment is obtained with the tractor top link—the rolling landside serving as an indicator.
3. Level—adjust so all bottoms run at the same depth. This adjustment is made with the lift arm leveling crank.
4. Width of Cut—adjust for width of the furrow cut by the front bottom. The furrow width should be the same as the size of the plow frame. A 14" plow should cut 14" wide, with the front bottom. Width of cut adjustment is accomplished by pointing plow to right or left for narrower or wider cut. This is accomplished by rotating the plow cross shaft forward to point the plow further into the land, or rotating it backward to narrow the cut.

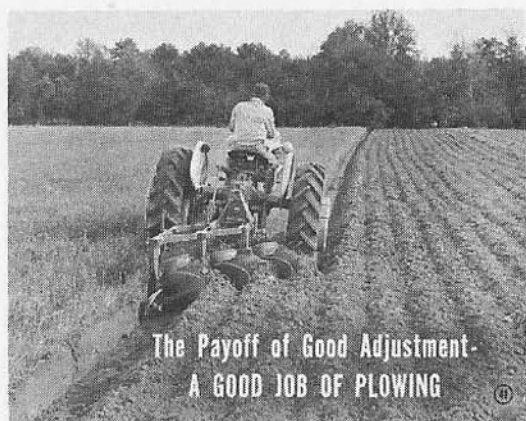


These four adjustments must be made in the proper sequence of Depth, Pitch, Level and Width of Cut for best plowing results.

And remember, if any adjustment is changed during plowing to meet conditions, always recheck all adjustments in proper sequence to see if anything else has been effected.

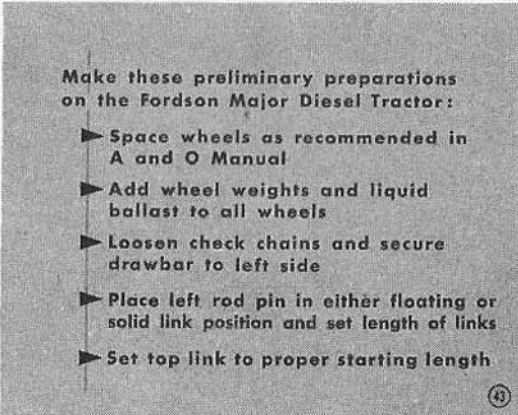
THE PAYOFF OF GOOD ADJUSTMENT IS A GOOD JOB OF PLOWING. With all adjustments completed in the simple Depth-Pitch-Level-Width of Cut sequence, and with accessories and steering checked, the Ford tractor and plow do an excellent plowing job—the kind of plowing that makes good seedbeds, good crops and satisfied customers.

This completes the basic adjustments of the Ford high clearance plow when used with the Ford tractors. Now let's consider adjustments when using the FMD tractor.



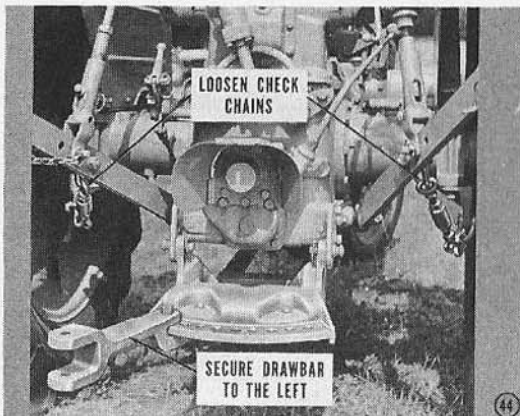


Here's another combination. Let's talk about the PRELIMINARY PREPARATION OF THE FORDSON MAJOR DIESEL TRACTOR AND FORD HIGH CLEARANCE PLOW.



MAKE THESE PRELIMINARY PREPARATIONS ON THE FORDSON MAJOR DIESEL TRACTOR.

- Space the wheels as recommended in the A & O Manual.
- Add wheel weights and liquid ballast to all wheels.
- Loosen check chains and secure drawbar to left side.
- Place left rod pin in either float or solid link position and set length of links.
- Set top link to proper starting length.



LOOSEN THE CHECK CHAINS AND SECURE DRAWBAR TO THE LEFT. The check chains should be loose enough to allow the plow to swing but still prevent interference with tractor tires. The drawbar should be removed, or secured to the left so there will be no interference with the plow.

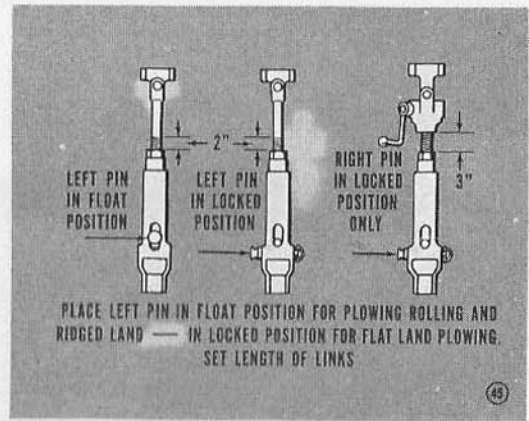
PLACE LEFT PIN IN FLOAT POSITION FOR PLOWING ROLLING AND RIDGED LAND—IN LOCKED POSITION FOR FLAT LAND PLOWING. SET LENGTH OF LINKS.

Here, at the left, we see the left pin in float position. This position is recommended for plowing rolling or ridged land because a more uniform depth can be obtained as a result of the flexibility between the tractor and plow.

The center sketch shows the left pin in the locked position. This position may be preferred for plowing flat land.

On the right you see that the right pin is used in the locked position only.

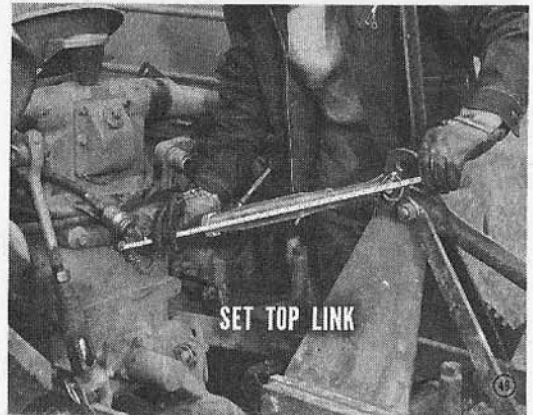
The length of the links should be set as shown. Regardless of whether the left pin is in the float or locked position, 2" of thread should show at the top of the left link; 3" on the right lift link for initial level setting.



SET TOP LINK at approximately 27". (26½" for row crop models.)

If automatic clutch release is used, make sure it is operating properly.

So much for preliminary adjustments on the tractor.



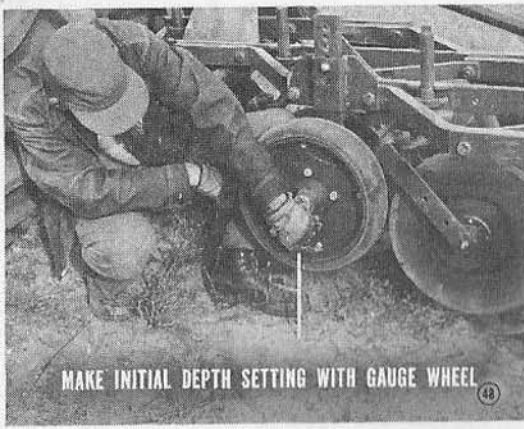
Assuming that you have the correct bottoms for the job, **MAKE THESE PRELIMINARY ADJUSTMENTS ON THE PLOW.**

- Check condition of shares and moldboards.
- Check cross-shaft and set screws in width of cut adjusting bracket for proper position.
- Set width of cut adjusting bracket at starting position.
- Adjust rear landside to proper setting.
- Make initial setting of coulters, jointers, coverboards and other accessories.
- Lubricate all moving parts.
- Set gauge wheel for desired depth.

Make these preliminary adjustments on the plow:

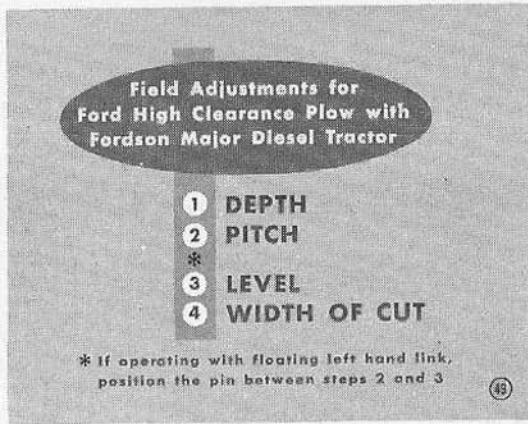
- Check condition of shares and moldboards
- Check cross-shaft and set screws in width of cut adjusting bracket for proper position
- Set width of cut adjusting bracket at starting position
- Adjust rear landside to proper setting
- Make initial setting of coulters, jointers, coverboards and other accessories
- Lubricate all moving parts
- Set gauge wheel for desired depth

All of the above listed preliminary adjustments are the same as we covered previously except setting the gauge wheel, so let's talk about that.



MAKE INITIAL DEPTH SETTING WITH GAUGE WHEEL (42)

MAKE INITIAL DEPTH SETTING WITH THE GAUGE WHEEL. A gauge wheel is used to gauge the depth of the rear bottom when the Ford plow is used with the Fordson Major Diesel Tractor. For initial setting, the wheel should be raised approximately the same number of inches as the depth you wish to plow.



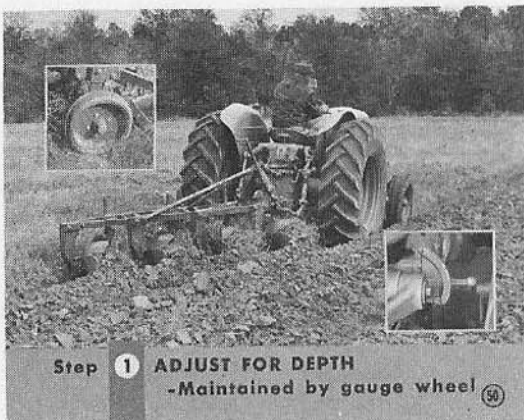
FIELD ADJUSTMENTS FOR FORD HIGH CLEARANCE PLOW WITH FORDSON MAJOR DIESEL TRACTOR.

1. Depth.
2. Pitch.

If operating with floating left hand link, position the pin between Steps 2 and 3.

3. Level.
4. Width of Cut.

Yes, we use the same basic adjustment steps in the same sequence as with the Ford tractor and plow. If left link pin is used in float position, it should be floated to correct position ($\frac{1}{4}$ " above bottom of slot) after Step 2 and before leveling with the crank. If left lift pin is used in solid position, adjust exactly as with Ford tractor.

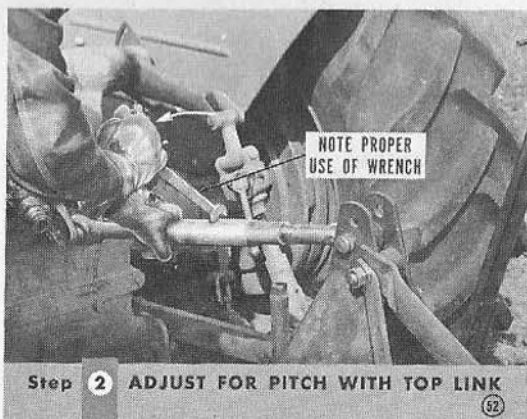


STEP 1. ADJUST FOR DEPTH of rear bottom. This depth is maintained by the gauge wheel. Lower the plow with the hydraulic control lever until the rear bottom is plowing at the desired depth. Next,

THE GAUGE WHEEL SHOULD CONTACT THE SOIL FIRMLY. Re-set if necessary, to maintain the desired depth of the rear bottom.



STEP 2. ADJUST FOR PITCH WITH TOP LINK exactly as with the Ford tractor. Lengthen until rolling landside leaves a light but definite track in furrow bottom. Shorten if necessary, to be sure plow penetrates readily in toughest part of field. Notice that the plow wrench can be used effectively to turn the top link.

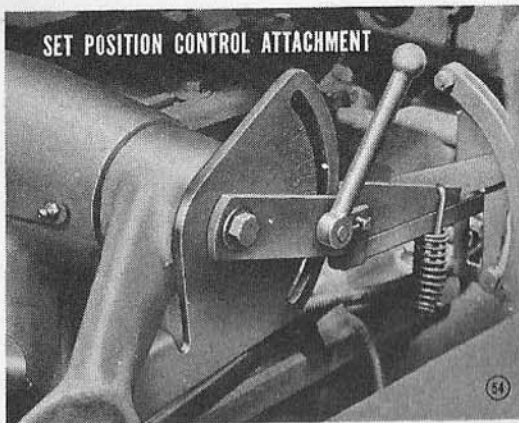


BEFORE LEVELING WITH CRANK, RAISE PLOW UNTIL LEFT LINK PIN FLOATS.

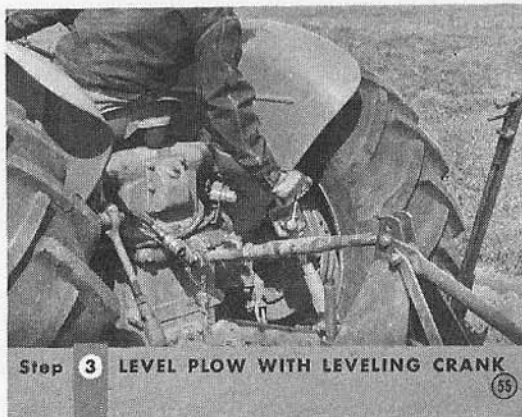
When plowing with the left pin in float position, raise the plow gradually with the touch control until the pin is floating about $\frac{1}{4}$ " above the bottom of the slot as shown in the insert. Do not confuse this with the leveling operation. If the length of the links has been properly set, the leveling operation should not affect the position of the floated pin.



The float position of the pin must be established while plowing. Cover enough land in making the setting to get representative action. If it is necessary to pull out of the furrow before completing adjustments, refloat the pin upon re-entering the furrow.



SET THE POSITION CONTROL ATTACHMENT while plowing with the rear bottom at the desired depth, and with the pin floating properly. This handy accessory is designed to automatically position the plow at the selected depth upon re-entering the furrow.



STEP 3. LEVEL PLOW WITH LEVELING CRANK, in the same manner as with the Ford tractor.



STEP 4. ADJUST FOR WIDTH OF CUT. After you have made sure the coulters are leaving a clean furrow wall, check the width of the furrow slice by the front bottom. Make necessary adjustments if width of cut does not agree with frame size of plow. Here, an accessory, the handy width of cut adjusting lever is being used.

Finally, check tractor steering exactly as with Ford tractor, and slide the plow cross-shaft if necessary.



By way of review, we see that AGAIN, THE SAME BASIC ADJUSTMENTS ARE MADE IN THE SAME SEQUENCE AS WITH THE FORD TRACTOR AND PLOW, FLOATING THE PIN AFTER STEP 2. (Review the adjustments as pictured.)

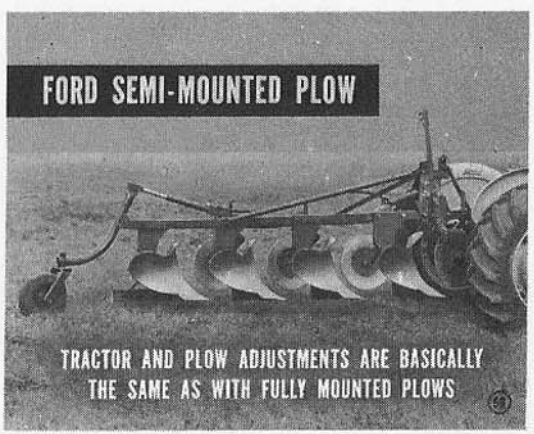
AGAIN, THE PAYOFF OF PROPER ADJUSTMENT IS A GOOD JOB OF PLOWING!



Now let's take a look at the FORD SEMI-MOUNTED PLOWS FOR USE WITH THE FORD AND FMD TRACTORS. These plows are available with 3 or 4 bottoms.

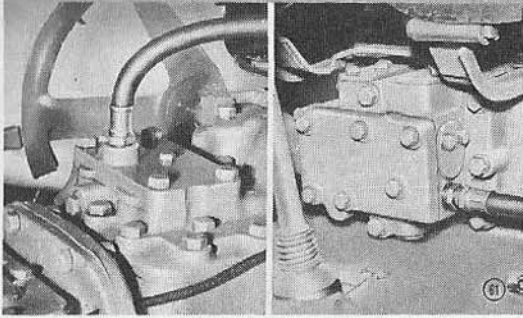


With the FORD SEMI-MOUNTED PLOW, THE TRACTOR AND PLOW ADJUSTMENTS ARE BASICALLY THE SAME AS WITH THE FULLY MOUNTED PLOWS we've just been looking at.



With the Ford tractor, the full benefits of automatic constant draft control are preserved in the design of this semi-mounted plow. Since the "rocking A frame" rocks only when the plow is raised for transporting, it allows the tractor hydraulic system to lift the plow one half at a time—first the front and then the back. However during the plowing operation the "rocking A frame" rides tightly against the spacer in the top of the regular plow A frame and acts the same as a fixed A frame. As a result, the front and rear of the plow respond simultaneously to any slight correction called for by either the control lever or the constant draft mechanism.

NO REMOTE VALVE NEEDED



NO REMOTE VALVE NEEDED. When this plow is used on either the Ford or FMD tractors the simple hydraulic hose hookup is as shown—Ford left, FMD right.

On each tractor the hydraulic control lever controls the lift action of both the tractor lift links and the plow tail wheel cylinder.

Tractor and plow preliminary adjustments are the same as with mounted plows except:

- ❶ Longer top link required
- ❷ Extra long landside replaces rolling landside
- ❸ Timing of lift of the plow

FIELD ADJUSTMENTS:

Are identical to those for the mounted plows

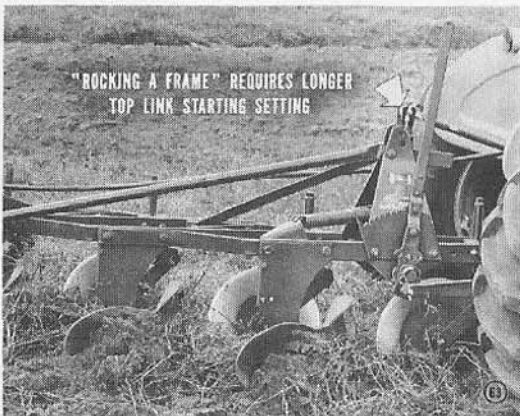
❷

TRACTOR & PLOW PRELIMINARY ADJUSTMENTS ARE THE SAME AS WITH MOUNTED PLOWS EXCEPT:

1. Longer top link required.
2. Extra long landside replaces rolling landside.
3. Timing the lift of the semi-mounted plow.

Field adjustments are identical to those for the mounted plows and are made in the same sequence. Let's look more closely at these differences in preliminary adjustments.

"ROCKING A FRAME" REQUIRES LONGER TOP LINK STARTING SETTING

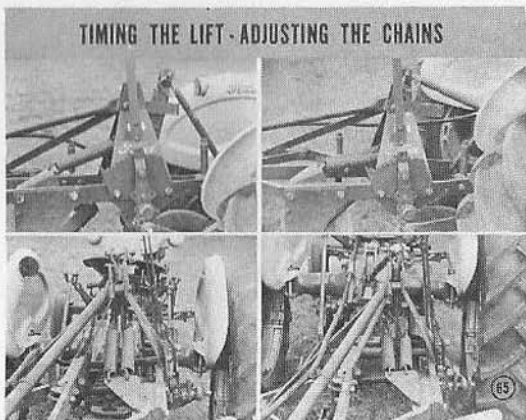


First of all, the "ROCKING A FRAME" REQUIRES LONGER TOP LINK STARTING SETTING. Since the "rocking A frame" projects above the regular plow A frame several inches, it is necessary that the top link starting setting be about $\frac{1}{4}$ " longer than for the mounted plows. This setting should provide adequate "pitch" for opening the field and starting the plow adjustments.

EXTEND BRACE TO PUSH REAR LANDSIDE $\frac{1}{2}$ " TOWARD THE FURROW WALL. To place the sliding landside in a position to perform the same function as the rolling landside, extend the brace until the landside is bowed $\frac{1}{2}$ " to the left or toward the furrow wall.



TIMING THE LIFT—ADJUSTING THE CHAINS. Now, let's discuss "timing the lift" of the Semi-Mounted Plow. When lifting the plow at the headland, the front of the plow raises first. We adjust the length of the chains so that the springs are under tension before the tractor lift arms reach the top.



We have, in effect, delayed lift of the rear bottoms, and the shorter the chains, the quicker the back of the plow raises.

If the chains are too long, the front of the plow will lift, but the back will not. The left side of the picture shows the springs tight with the plow lifted. The right half shows the plow lowered and the springs loose.

Be sure there is no air in the cylinder. Air can cause the plow to appear oversensitive, resulting in an uneven furrow bottom.

THE FIELD ADJUSTMENTS ARE IDENTICAL TO THOSE FOR THE MOUNTED PLOWS:

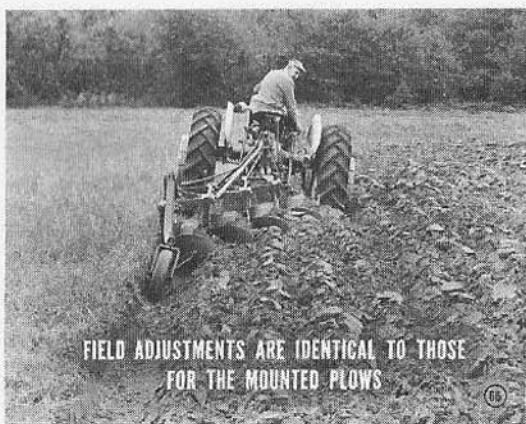
Depth is set and maintained with the hydraulic control lever.

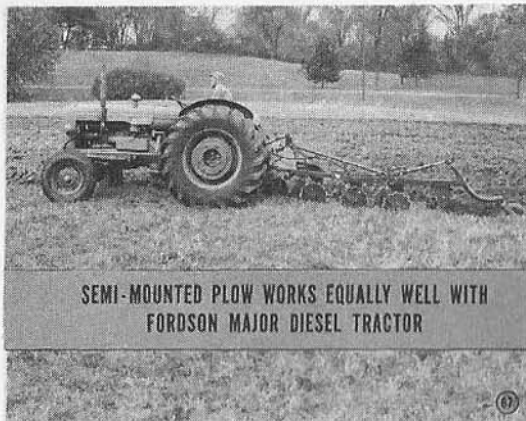
Pitch is controlled by the length of the top link. Use the mark on the furrow bottom made by the heel of the rear landside as an indicator for maximum top link length.

Level of the plow is established with the tractor leveling crank.

Width of Cut is handled by the width of cut adjusting bracket, and

Steering, as with the mounted plows, can be corrected, if necessary, by sliding the cross-shaft in the same direction the front of the tractor pulls.





SEMI-MOUNTED PLOW WORKS EQUALLY WELL WITH FORDSON MAJOR DIESEL TRACTOR

THE FORD SEMI-MOUNTED PLOW WORKS EQUALLY WELL WITH THE FORDSON MAJOR DIESEL TRACTOR. The plow will perform very satisfactorily under most conditions without a gauge wheel. If the gauge wheel is not used, the pin in the left hand tractor lift link should be in the "solid link" position.



Preliminary Preparation for FORD TWO-WAY TWO-FURROW PLOW AND FORD TRACTOR

Now let's take a look at the PRELIMINARY PREPARATION OF THE FORD TWO-WAY TWO-FURROW PLOW AND THE FORD TRACTOR.

MAKE THESE PRELIMINARY PREPARATIONS ON THE FORD TRACTOR:

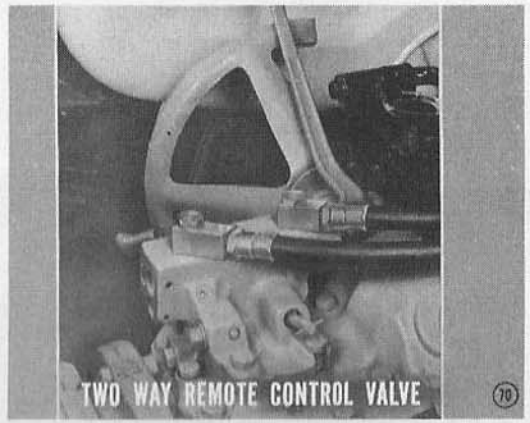
Make these preliminary preparations on the Ford tractor:

- ▶ Space wheels as recommended in A and O Manual
- ▶ Add wheel weights and liquid ballast to all wheels
- ▶ Install 2-way remote control valve
- ▶ Bring right lift link to "level" mark
- ▶ Set hydraulic system in constant draft or implement position control, as desired
- ▶ Set top link at proper starting setting and check main control spring tension

- Space wheels as recommended in A & O Manual.
- Add wheel weights and liquid ballast to all wheels.
- Install 2-way Remote Control Valve.
- Bring right lift link to level mark.
- Set hydraulic system in constant draft or implement position control as desired.
- Set top link at proper starting length and check main control spring tension.

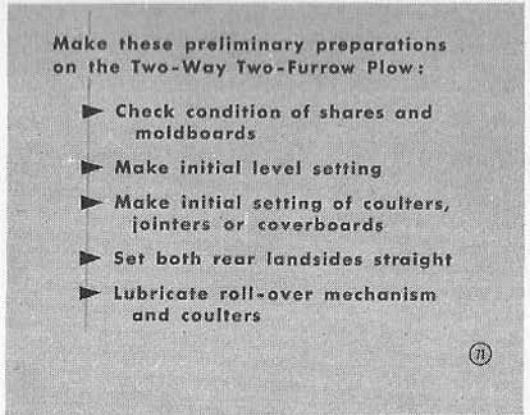
Again, the preparation of the tractor is basically the same as before with the exception of the:

TWO-WAY REMOTE VALVE installed on the Hydraulic Lift Cover. This controls the roll-over action of the plow.



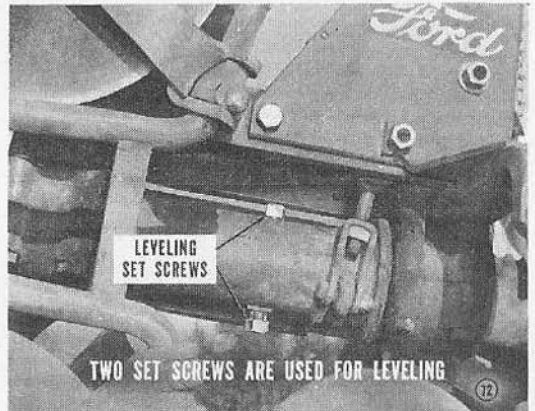
MAKE THESE PRELIMINARY PREPARATIONS ON THE TWO-WAY TWO-FURROW PLOW:

- Check condition of shares and moldboards.
- Make initial level setting.
- Make initial setting of coulters, jointers, or coverboards.
- Set both rear landsides straight.
- Lubricate roll-over mechanisms and coulters.



Checking the condition of the shares and moldboards has been discussed previously. However, the next three items rate individual attention. The first is leveling.

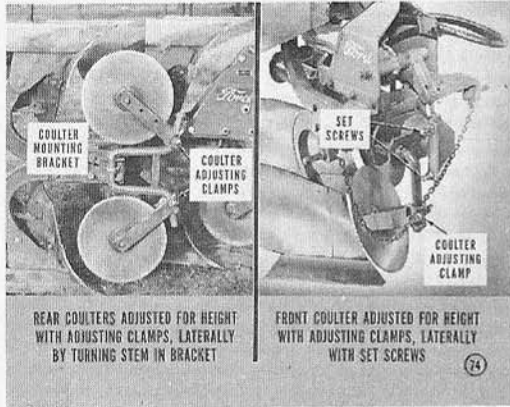
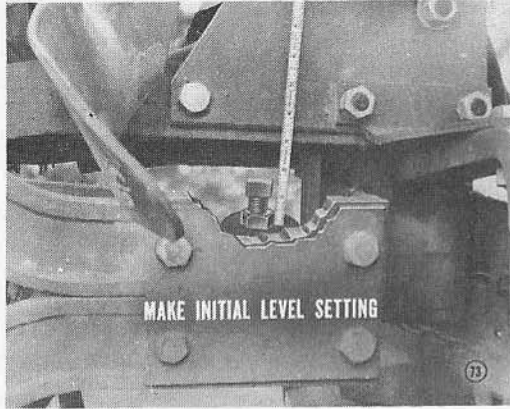
TWO SET SCREWS ARE USED FOR LEVELING. These two set screws serve as stops for limiting rotation of the bottoms, and each is used to level one set of bottoms.



MAKE INITIAL LEVEL SETTING.

For an initial level setting when plowing at depth of approximately 9", set screws should be adjusted so that the head of each screw projects approx. 1 and $\frac{9}{16}$ " above casting boss.

Shortening the set screws allows the plow to rotate farther. What does this do to the depth of the front bottom? Since shortening the set screws allows the plows to rotate further, the front bottom is raised and its depth reduced. Lengthening the screws stops the rotation quicker, leaving the front bottom deeper.

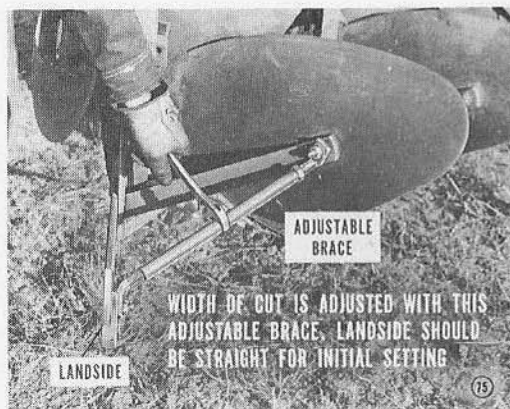


Here you see the coulters for the two-way, two-furrow Plow. The rear coulters are shown on the left along with the coulters mounting bracket and the coulters adjusting clamps.

The rear coulters are adjusted for height with the adjusting clamps and laterally by turning the stem in the bracket.

On the right you see the front coulters with the set screws and adjusting clamp. The one front coulters serves both front bottoms.

The front coulters is adjusted for height with the adjusting clamps and laterally, with set screws.



WIDTH OF CUT IS ADJUSTED WITH THE ADJUSTABLE BRACE ON EACH REAR BOTTOM. THE EXTRA LONG LANDSIDE ON BOTH REAR BOTTOMS SHOULD BE STRAIGHT FOR INITIAL SETTING.

CHECK ROTATION OF PLOW AND LUBRICATE ROLL-OVER MECHANISM AND COULTERS.

Before going to field, CHECK ROTATION OF PLOW FOR POSITIVE, FREE-TURNING ACTION AND LUBRICATE THE ROLL-OVER MECHANISM AND COULTERS.

Never rotate the plow with the tractor engine running at more than 1200 r.p.m. Good lubrication of the roll-over mechanism is very important. If the plow does not turn freely, or lock securely in position, refer to the A & O Manual for the adjustment of the turning linkage.

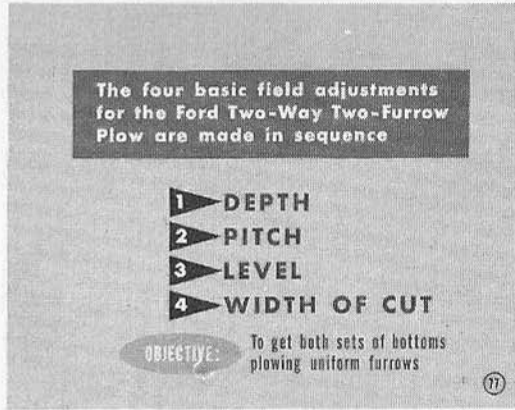


CHECK ROTATION OF PLOW AND LUBRICATE ROLL-OVER MECHANISM AND COULTERS

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THE FOUR BASIC FIELD ADJUSTMENTS FOR THE FORD TWO-FURROW TWO-WAY PLOW ARE MADE IN SEQUENCE:

- Depth
- Pitch
- Level
- Width of Cut
- Objective—to get both sets of bottoms plowing uniform furrows.



The four basic field adjustments for the Ford Two-Way Two-Furrow Plow are made in sequence

- 1 DEPTH
- 2 PITCH
- 3 LEVEL
- 4 WIDTH OF CUT

OBJECTIVE: To get both sets of bottoms plowing uniform furrows

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Depth and Pitch are adjusted for one set of bottoms. This automatically adjusts depth and pitch for the second set of bottoms.

Level and Width of Cut must be adjusted independently for each set of bottoms.

STEP 1. ADJUST FOR DEPTH WITH TOUCH CONTROL LEVER and set stop on quadrant.



Step 1 ADJUST FOR DEPTH with touch control lever

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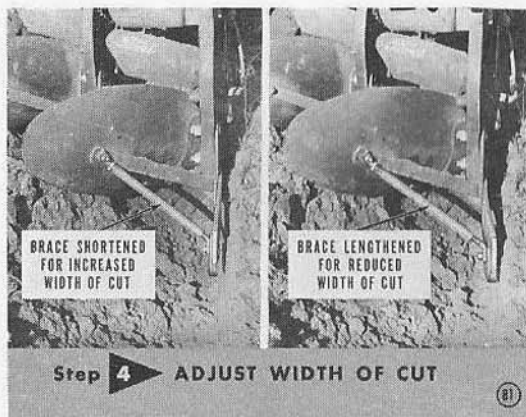
STEP 2. ADJUST FOR PITCH WITH TOP LINK. The top link should be set so the heel of the landside leaves a light mark on the furrow bottom when the plow is in operation.

Top link may have to be shortened slightly in hard-to-penetrate soils or if shares are worn a little.



STEP 3. ADJUST FOR LEVEL WITH LEVELING SET SCREWS. With the plow level, the beams on both right and left hand bottoms should be perpendicular to ground level when plowing at desired depth.

In this illustration we see that the plow has rotated too far and the beams lean to the left. By lengthening the set screw, the rotation will be stopped sooner and the plow leveled properly. Also, if the coulter hubs can indicate whether the front and rear bottoms are plowing at the same depth.



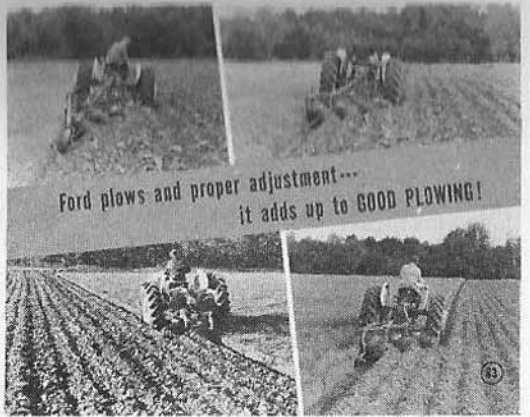
STEP 4. ADJUST WIDTH OF CUT. Check width of furrow slice cut by front bottom. The brace is shortened for increased width of cut, as shown on the left; lengthen for reduced width of cut, as shown on the right.

This width of cut adjustment is not accomplished by pointing the plow as with the conventional plows, but by pushing the plow out of the land by extending the landside or by allowing the plow to take a bigger bite by retracting the landside.

WITH ADJUSTMENTS COMPLETED, THE FORD TWO-FURROW TWO-WAY PLOW TURNS UNIFORM FURROWS WITH BOTH SETS OF BOTTOMS. Again, the right adjustments in the right sequence get good results.



FORD PLOWS AND PROPER PLOW ADJUSTMENT — IT ADDS UP TO GOOD PLOWING!



THE END

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TRACTOR & IMPLEMENT DIVISION
FORD MOTOR CO.

SUGGESTED REVIEW QUESTIONS FOR "FORD MOLDBOARD PLOWS PART II"

1. What are some of the factors that can require different adjustments on the same plow in the same field between spring and fall plowing? (FR 5)
2. What are the preliminary preparations of the Ford Tractor for plowing? (FR 7)
3. What is the recommended wheel spacing for a 4 bottom 14 inch Ford High Clearance Plow? (Re—A & O Manual)
4. What are the suggested preliminary preparations of the plow? (FR 15)
5. What is the normal position of the cross-shaft in relation to the plow frame? (FR 17)
6. What is the starting setting of the width of cut adjusting bracket? (FR 18)
7. Does the set screw on the rolling landside push the wheel up, or pull it down? (FR 19)
8. Why are there two positions for the coulter brackets on the plow frame? (FR 20)
9. What are the four basic field adjustments of the Ford High Clearance Plow? Why is proper sequence of adjustments important? (FR 23 & 24)
10. What adjustments can affect the depth of the front bottom? (All four adjustments) (FR 24 thru 31)
11. Can the plowing job be used effectively to judge the setting of the plow before the width of cut has been properly set? Explain. (FR 32)
12. Why is uniform setting of the coulters important? (FR 36)
13. If all four basic adjustments have been properly made and steering side-pull is objectionable, what further adjustment can be made? (FR 38-39)
14. Is there any basic difference between the preliminary preparation of the Ford and FMD tractors for use with the Ford High Clearance plows? (FR 43 thru 46)
15. Is there any basic difference between the field adjustments of the plows when used with Ford or FMD tractors? (FR 49)
16. What are the minor differences in the preliminary adjustments of the semi-mounted plows as compared to mounted plows? (FR 62 thru 65)
17. What is the function of the "rocking A frame" and chains on the semi-mounted plow? (FR 60 & 65)
18. How does the length of the large set screws affect the setting of the 2-way, 2-furrow plow? (FR 73)
19. What is the check point for proper level of the 2-way, 2-furrow plow? (FR 80)
20. How do the braces on the extra long landside affect the width of cut of the 2-way, 2-furrow plow? (FR 81)

REMEMBER — WHEN YOU SELL Ford Moldboard Plows:

- Read this Manual
- Plan your sale and your approach
 - Know prospect's needs
 - Stress benefits to him
 - Stress flexibility, performance and convenience
- Prove your conversation by demonstration



Make sure your prospect clearly understands all of the benefits that Ford Moldboard Plows will bring him.



Make sure he appreciates the superior features of the Ford Moldboard Plows. Show him these features and the built-in quality.



Demonstrate the recommended procedures for getting proper plow performance.

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