FERGUSON MOLDBOARD PLOW

MODEL AO

OPERATING and ASSEMBLY INSTRUCTIONS

the FERGUSON TRACTOR and FERGUSON SYSTEM IMPLEMENTS

Ferguson DIVISION
MASSEY-HARRIS-FERGUSON INC.
Racine, Wisconsin

IMPLEMENT WARRANTY

For a period of ninety (90) days from the date of delivery of a new Ferguson Implement to the original purchaser thereof from a Ferguson Dealer, Massey-Harris-Ferguson Inc. warrants all such parts thereof (except tires) which, under normal use and service, shall appear to Massey-Harris-Ferguson Inc. to have been defective in workmanship or material.

This warranty is limited to shipment to the purchaser, without charge except for transportation costs, of the part or parts intended to replace those acknowledged by Massey-Harris-Ferguson Inc. to be defective.

If the purchaser uses or allows to be used on a Ferguson Implement parts not made or supplied by Massey-Harris-Ferguson Inc. or if any Ferguson Implement has been altered outside of its own factories or sources of supply, or if attachments have been used which were unsuited and harmful to the Ferguson Implement, then this warranty shall immediately become void. Massey-Harris-Ferguson Inc. does not undertake responsibility to any purchaser of a Ferguson Implement for any undertaking, representation, or warranty beyond those herein expressed.

Massey-Harris-Ferguson Inc. reserves the right to make changes in design or changes or improvements upon Ferguson Implements without any obligation upon it to install the same upon Implements theretofore manufactured.

FERGUSON DIVISION

MASSEY-HARRIS-FERGUSON INC.

RACINE, WISCONSIN

PRE-OPERATING INSTRUCTIONS

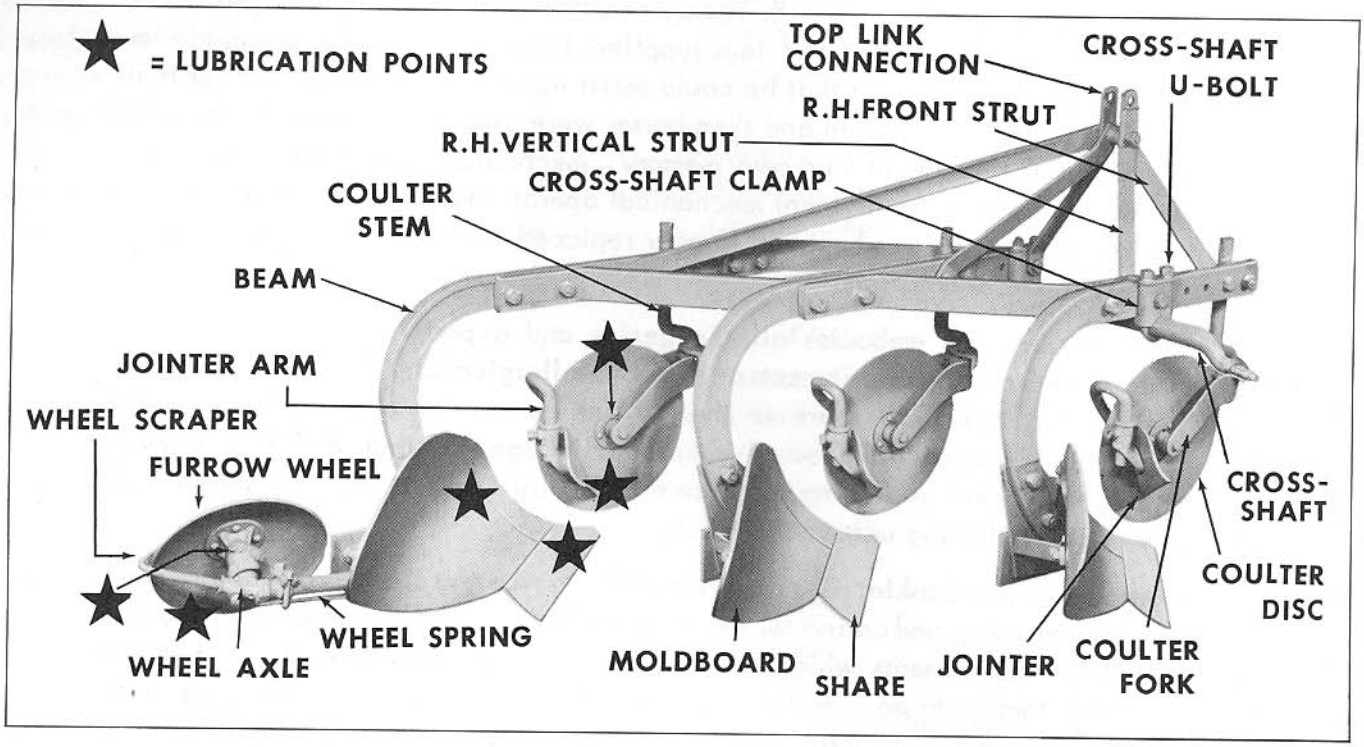


Fig. 1 The Ferguson Moldboard Plow

LUBRICATION

Each pressure-type fitting as listed below and as shown in Fig. 1 should be lubricated daily. The fittings should first be wiped clean and then have a good grade of pressure gun lubricant pumped into them until some grease is forced out around the bearings. This procedure flushes out dirt and grit which would otherwise cause rapid wear if allowed to accumulate.

Lubricate the following points daily with a pressure-type grease gun (See stars on Fig. 1).

1. Coulter hubs
2. Furrow wheel hub
3. Furrow wheel bracket

CAUTION: Do not put any oil on connections at cross-shaft, top link, or ball socket joints. Oil at these points will collect dirt and grit, causing rapid wear.

At the end of each day's plowing, or when storing the plow, be sure to apply a protective coating of lubricant or rust inhibitor to all polished, soil engaging parts such as moldboards, shares, rolling coulters, jointers and furrow wheel. Failure to protect these surfaces will result in rust and pitting of the metal which could prevent the plow from scouring. Such deterioration can only be corrected by repeated land polishing or replacement with new parts.

ATTACHING THE PLOW

The Ferguson Moldboard Plow, like all other Ferguson Implements, attaches to all Ferguson System Tractors by the three-point hitch. It is possible to attach or detach this implement in one minute or less. A simple, easy to follow procedure is outlined below.

1. Back the tractor so that it is centered with the implement, having the lower links

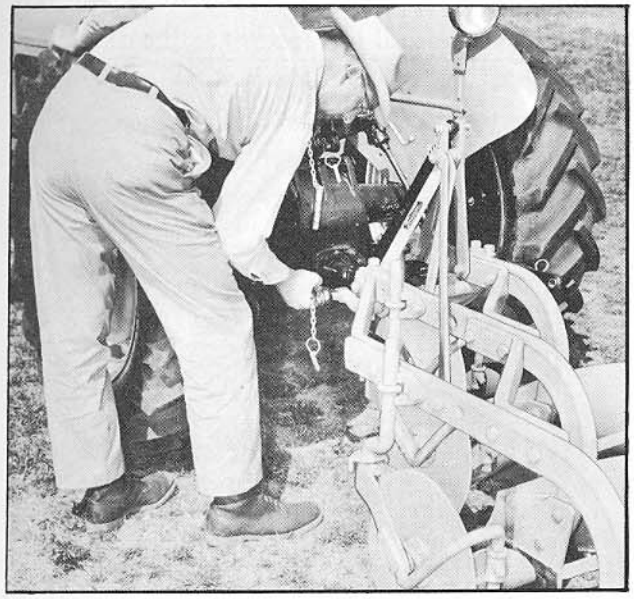


Fig. 2 Attaching Left Link

slightly above the cross-shaft. Align ball socket of left lower link with cross-shaft.

2. Lower the links by pushing the hydralever down as far as necessary. Dismount tractor on left side.

3. Attach left lower link and secure with linch pin, see Fig. 2.

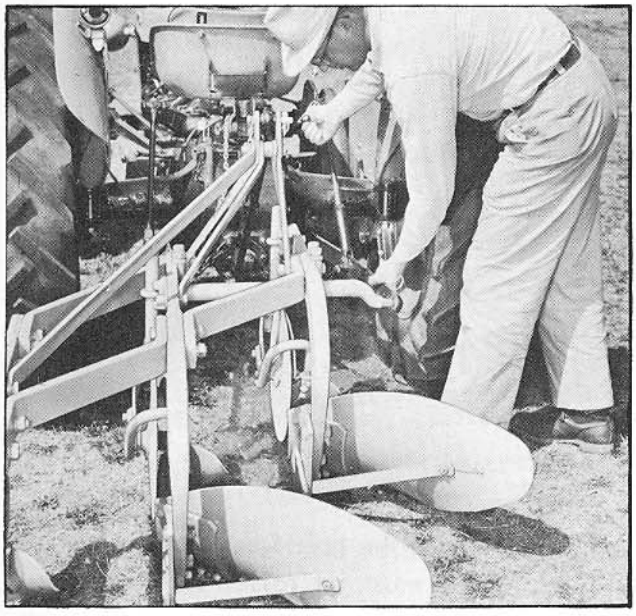


Fig. 3 Attaching Right Link

4. Attach right lower link using the leveling crank to bring the ball joint in line with the attaching pin, rocking the tractor slightly backward or forward, if necessary, to align the pin with the ball socket, see Fig. 3. Secure with linch pin.

5. Attach upper link to the implement with clevis pin and secure with linch pin. Remount tractor and attach the free end of the upper link to the tractor by moving the tractor slowly backward and forward in a low gear. This will line up the connection, permitting the clevis

Fig. 4 Attaching Top Link

pin to be inserted. Secure with linch pin. See Fig. 4.

RAISING AND TRANSPORTNG

1. With the tractor engine running raise the hydralever to the top of the position control range. The plow is now in the fully raised position.

2. With the leveling crank adjusted to the level mark on the threaded shaft sufficient slack will be removed from the check chains to prevent excessive side sway during transport.

DETACHING PLOW

1. Select level ground and level the plow bottoms with the ground by turning the leveling crank.

2. While seated on the tractor, detach front end of the top link, moving tractor slightly backward or forward, if necessary, to free the pin.

3. Dismount the tractor from the right side and detach right bottom link, adjusting leveling crank to free any strain on ball socket joint.

4. Detach left bottom link.

IMPORTANT: Be careful to put the linch pins in their proper clips on the bottom links, to prevent the pins from being torn off.

ADJUSTMENTS

LOCATION OF CROSS-SHAFT

The location of the off-center cross-shaft has been accurately set at the factory for optimum stability and to insure an even, full cut by the plow bottoms. If at any time this setting becomes altered, the correct dimension as given in Table 1 must be used to conform with the particular plow under consideration.

Dim. for 16" Single-Bottom . . .	9-7/8"
Dim. for 12" 2-Bottom	7-1/2"
Dim. for 14" 2-Bottom	3-1/2"
Dim. for 16" 2-Bottom	4-3/4

TABLE 1

Loosen the two "U" bolts that secure the cross-shaft to the plow beams. Slide the cross-shaft to right or left according to the dimension shown in Table 1. This dimension applies to the left side of the plow from the outside edge of the plow beam to the collar on the cross-shaft. See Fig. 5. The cross-shaft settings for 12 in. and 14 in. three bottom plows are identical to those of two bottom plows of the same size.

NOTE: After any lateral adjustment of the cross-shaft, check the width of cut of the front bottom to make sure the cross-shaft was not rotated.

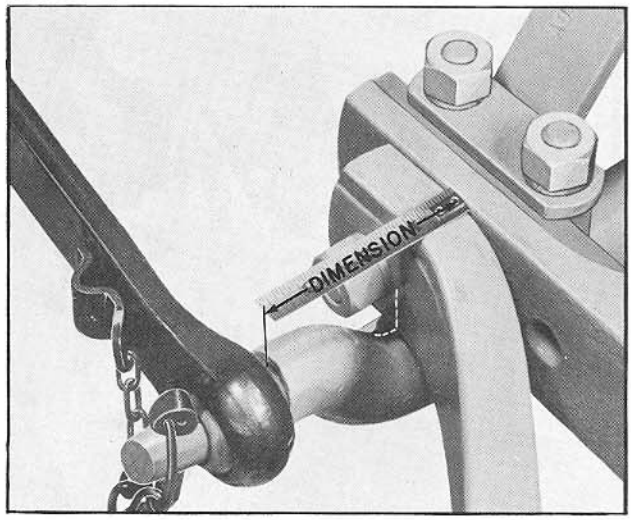


Fig. 5 Location of Cross-shaft

ROLLING COULTER & JOINTER

The coulter should be set approximately 1-1/2 in. above the share at nearest point, see Fig. 6. For deep plowing the coulters must be raised to prevent the hubs from dragging on the ground. They must be raised also in heavy, trashy ground to permit them to cut through. Set coulters to left of the following landside,

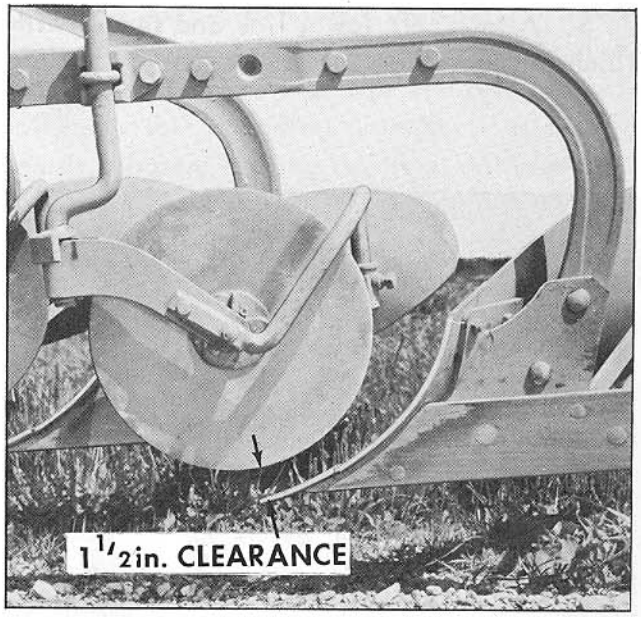


Fig. 6 Coulter Setting

just far enough to leave a clean-cut furrow wall. To adjust the coulter loosen the eye bolt and reposition the shaft, see Fig. 7. The jointer should be turned toward the coulter until the point lightly touches the coulter blade, see Fig. 8, with the tip of the jointer just deep enough to roll a slice of soil and trash into the bottom of the furrow. Note that these coulters require no check chains as heavy stops are built in to check swing.

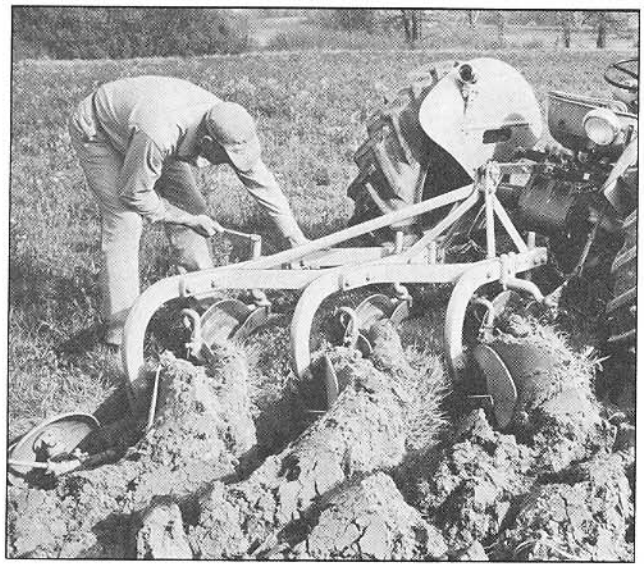


Fig. 7 Adjusting Coulter

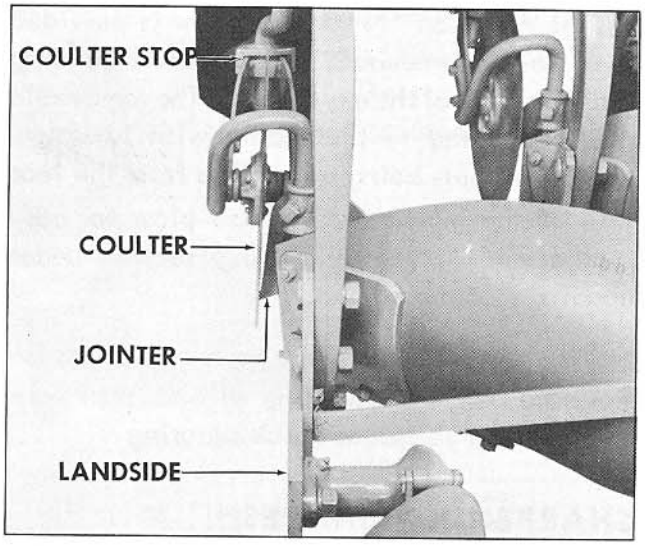


Fig. 8 Coulter and Jointer Setting

Coulters should be kept well sharpened for effective penetration. Dull coulters increase the draft, tend to ride the plow out of the ground and do not cut trash well. If the coulter is excessively worn, it will be necessary to have it replaced with a new one.

NOTE: When the soil is extremely hard it may be necessary to raise the coulter on the plow frame to a higher setting than shown in Fig. 6.

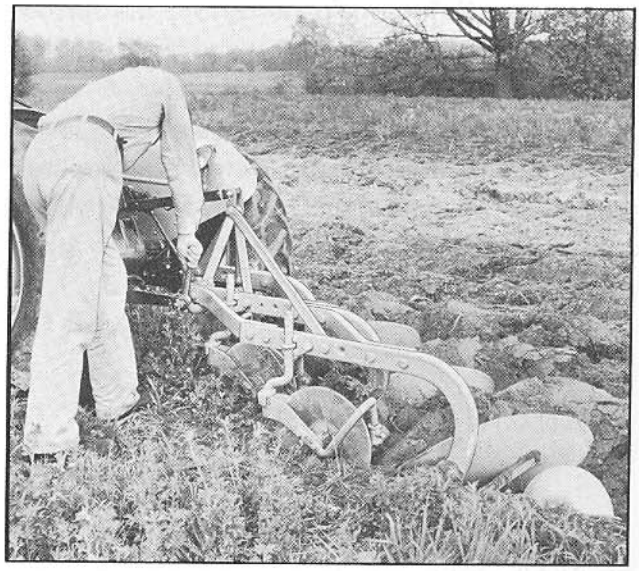


Fig. 9 Adjusting Width of Cut

WIDTH OF CUT

The plow cross-shaft is offset in such a way that rotating the shaft will change the width of cut of the first bottom.

To adjust width of cut, loosen the "U" bolts which fasten the cross-shaft to the plow. Mark the cross-shaft to beam for a starting point as shown in Fig. 5. A 1/8 in. turn on the cross-shaft will change the width of cut of the front bottom approximately 1 in. To increase width of cut, rotate the top of the shaft forward. To decrease cut, rotate the top of the shaft backward, see Fig. 9. UNDER NO CIRCUMSTANCES SHOULD THE CROSS-SHAFT BE MOVED ON THE PLOW LATERALLY, other than to conform to the basic setting mentioned in the section under the heading "Location of Cross-shaft".

FURROW WHEEL SCRAPER

The furrow wheel of the Ferguson Plow has a pivoting, spring-loaded axle and therefore with regard to location is self adjusting. It will follow in the extreme bottom of the furrow with a constant pressure against the furrow wall and will maintain correct depth and location in relation to plowing depth independent of the plow. The Ferguson furrow wheel insures uniform furrow slicing and penetration; the furrow wheel also takes upside thrust and gives stability to the plow.

Adjustment of the furrow wheel scraper is possible by means of a set screw which secures the end of the scraper shaft in the furrow wheel axle, see Fig. 10. Set the scraper to give enough clearance to permit the furrow wheel to rotate without interference and at the same time to provide a satisfactory scraping action.

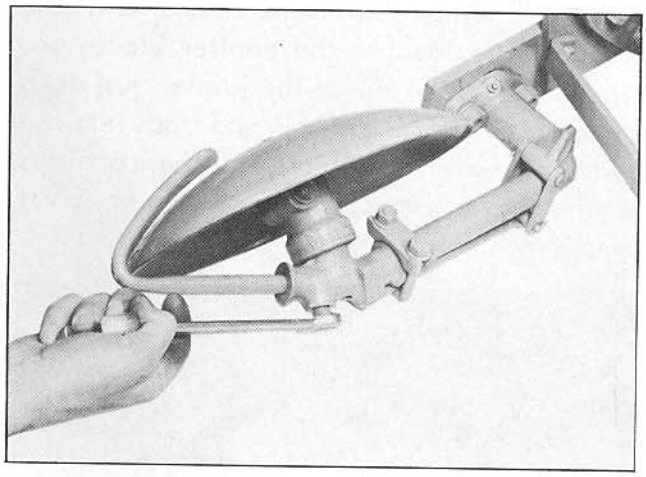


Fig. 10 Adjusting Furrow Wheel Scraper

MAINTENANCE

CHANGING SHARES

When changing plow shares in the field on all plows, raise the plow with the hydralever (finger-tip control on older model tractors) and change shares with the implement in the raised position, see Fig. 11. When necessary the removable shins of the "N" Bottom Plow may be replaced with the implement in this raised position. See following section on this operation.

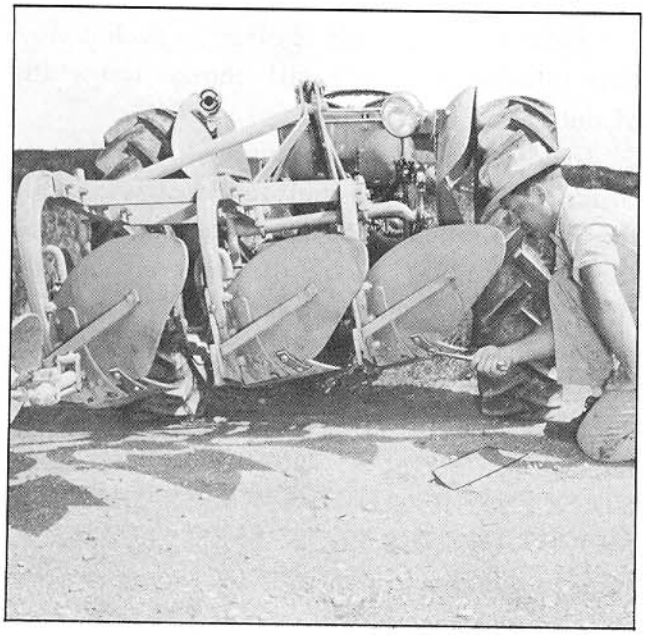


Fig. 11 Changing Shares

CHANGING REMOVABLE SHINS

The Ferguson "N" Bottom Plow is provided with easily removable shins, thus extending the useful life of the moldboard. The removable shin is secured to the saddle with two plow bolts, the nuts being accessible from the rear side of the moldboard. Raise plow for easy replacement. See preceding section under heading "Changing Shares".

NOTE: Before using new shares or shins remove the protective coating with paint or varnish remover to insure quick scouring.

SHARPENING SHARES

Each owner has his own particular ideas on how a share is to be sharpened. Whether it is done by the owner or in a blacksmith shop, the general procedure should be the same. Listed

below are suggestions which should be followed in the sharpening procedure.

NOTE: A new and unused share should be used as a pattern to follow when sharpening and repointing a worn share. Observe that in the case of the "N" bottom plow, sharpening and reshaping of shares or moldboard shins are eliminated as economical replacement has been made possible.

CARBURIZED, SOFT CENTER AND SOLID STEEL SHARES

1. Heat the point of the share in a blacksmith's forge fire, well banked to hold the heat, to a color between bright red and dull orange. Heat about one-third of the cutting edge depending upon how badly it is worn, but not more than required.

With the use of a blacksmith's hammer and an anvil, or other suitable flat steel surface, draw the point of the share to as near the original shape as possible, except for point suction which may be added later.

2. Heat the cutting edge to a color between bright red and dull orange, in sections of about 2-1/2 in. along the edge and 1-1/2 in. back from the edge, and draw the share to the original shape. The metal should be drawn until it has turned a dark red. Do not continue to draw the metal after it has darkened completely.

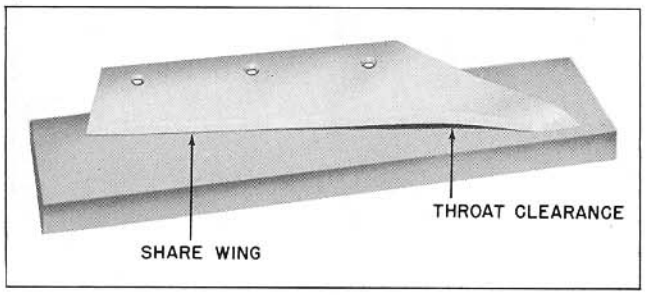


Fig. 12 Throat Clearance

3. Set the throat clearance and ground suction, Fig. 12 and Fig. 13, in the point of the share by reheating it to a dull red, laying the point over the edge of the anvil and hammering it downward.

The ground suction, Fig. 13, should be about 3/16 in. measured at the gunnel with the point and heel of the gunnel laying on the anvil.

The throat clearance should be at least 1/8 in. measured from the cutting edge to the anvil, Fig. 12. The wing of the share should have no contact with the anvil except at the cutting edge. In other words, the share wing does not need wing bearing to make it function properly.

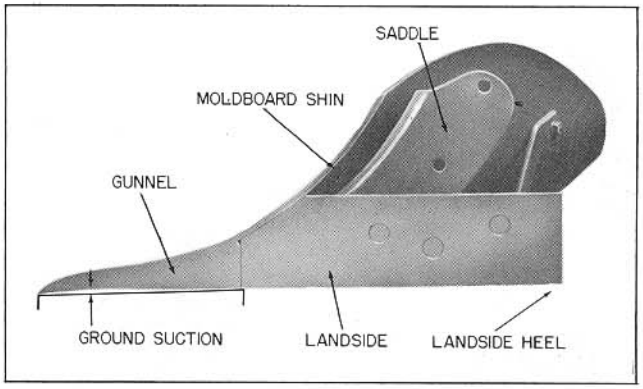


Fig. 13 Ground Suction

4. To harden soft-center or carburized steel shares, heat them uniformly to a dull or bright red and quench in water at room temperature. It is suggested that the share be moved in and out of the water as it is cooled until a blue or light purple color persists upon air cooling. Crucible or solid steel shares should not be quenched, but heated to a dull or bright red and allowed to cool slowly in still air.

CHILLED SHARES

Chilled shares should be ground with any ordinary emery wheel, on the top side only, to a beveled edge.

CHECKING PLOW ALIGNMENT

If, at any time it is desirable to check the plow for alignment or wear, the procedure below outlines steps to follow.

TWO OR THREE BOTTOM PLOWS

1. Select a level surface such as a level cement floor, and block up each plow bottom as shown in Fig. 14 using blocks of equal height. The blocks are to be positioned directly under the lower beam bolt with only the land-

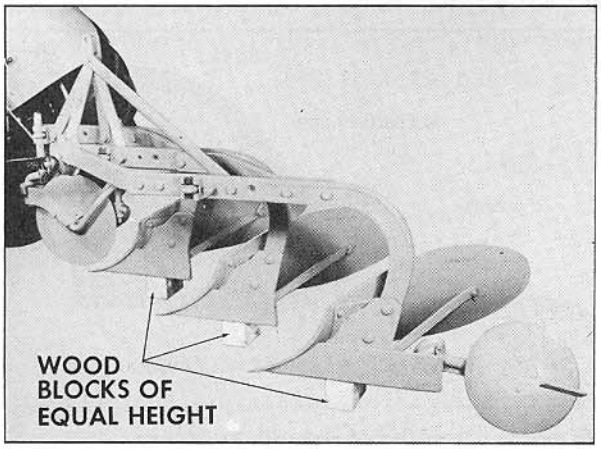


Fig. 14 Blocking up Plow

side resting on the block. Note that the floor or surface should be as level as possible. Any uneveness in the floor will influence the measurements made. These measurements are calculated with tolerances plus or minus 1/8 in.

2. Disconnect the top link from the tractor and with the aid of a carpenter's square, level the plow with the leveling crank until the face of the rear bottom landside is perpendicular with the level surface, see Fig. 15.

3. Measure the distance from the center line of the lower beam bolt hole to the level surface as shown in Fig. 16. Refer to this distance as dimension "A".

4. Referring to Figs. 17, 18 and 19 measure the distance "X", "Y" and "Z".

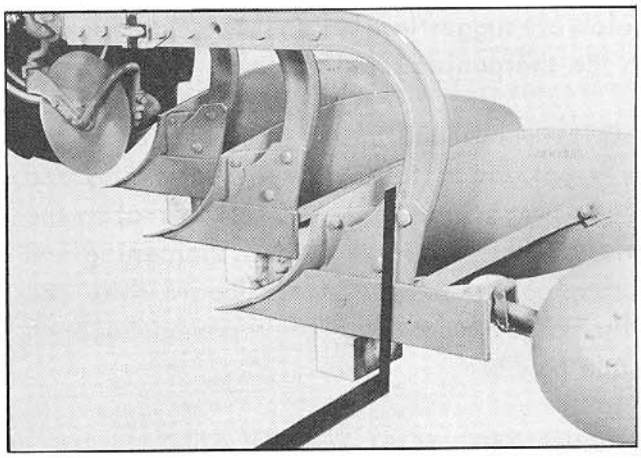


Fig. 15 Squaring up Plow

The distances "X" and "Y" are to be measured on all bottoms. "Z" is to be measured only on the rear bottom.

The readings taken, then are to be checked against the chart. The chart is also applicable for the single bottom 16 in. plow.

5. Measure the width of cut by placing a carpenter's square as shown in Fig. 20. The reading should be the width of cut plus or minus 1/4 in. i.e. 13-3/4 in. to 14-1/4 in. for 14 in. bottoms.

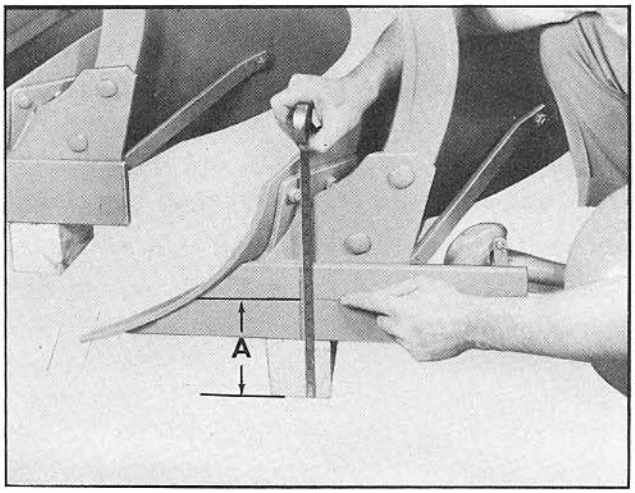


Fig. 16 Dimension "A"

NOTE:

See the chart for checking different types of plow bottoms above the illustrations on the next page. Remember when making any check

CHART FOR CHECKING PLOW BOTTOMS

For Dimension "A" Refer to Fig. 16

Type & Size Bottom	Share Points Fig. 17. X Can Vary Between	Share Wing Fig. 18. Y Can Vary Between	Landside Heel Fig.19. Z Can Vary Between
12" "B"	A-3-1/4" to A-2-7/8"	A-3" to A-2-1/2"	A-2-1/4" to A-1-7/8"
14" "R"	A-3-3/8" to A-3"	A-3-5/8" to A-3-1/4"	A-2-3/4" to A-2-3/8"
16" "C"	A-3-1/4" to A-2-7/8"	A-3-1/8" to A-2-3/4"	A-2-1/4" to A-1-7/8"
12" "N"	A-3-1/8" to A-3-1/4"	A-2-5/8" to A-2-3/4"	A-2-3/8" to A-2-7/8"
14" "N"	A-3-1/8" to A-3-1/4"	A-2-1/2" to A-2-3/4"	A-2-3/8" to A-2-7/8"
16" "N"	A-3-1/8" to A-3-1/4"	A-2-3/8" to A-2-5/8"	A-2-3/8" to A-2-7/8"

TABLE 2

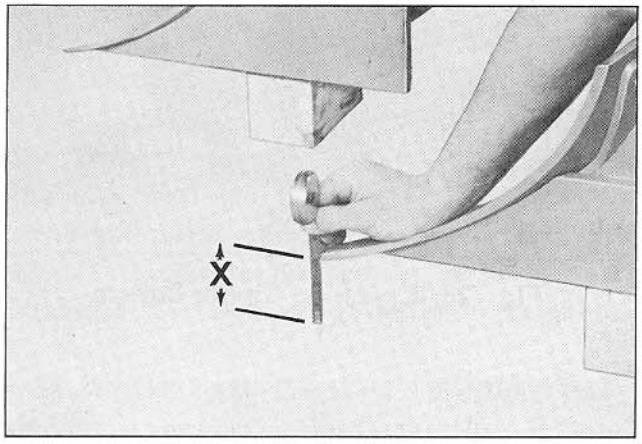


Fig. 17 Dimension "X"

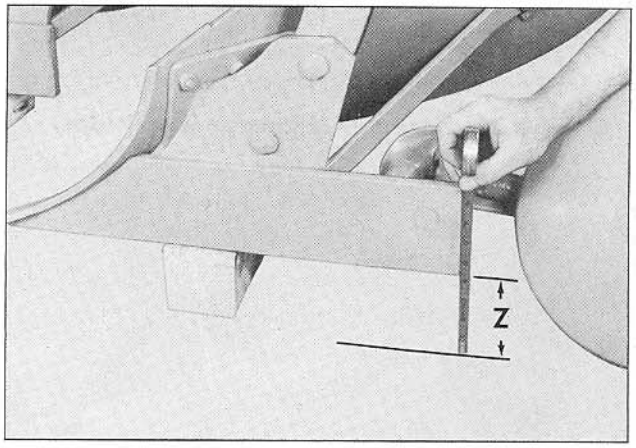


Fig. 19 Dimension "Z"

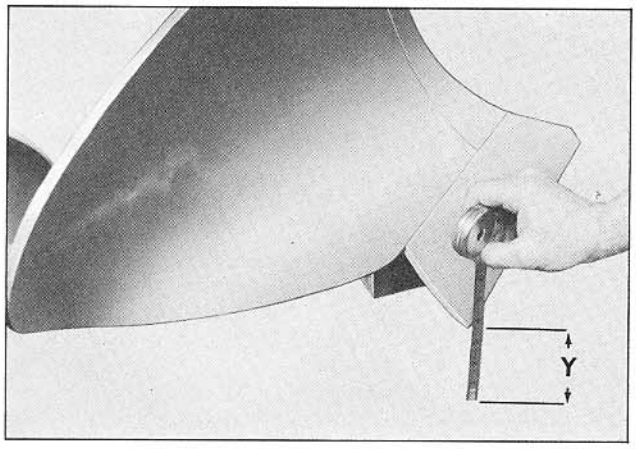


Fig. 18 Dimension "Y"

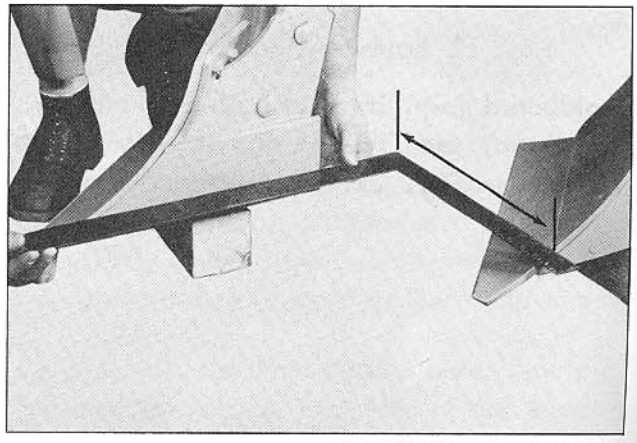


Fig. 20 Measuring Width of Cut

that the floor surface must be quite level, and the points, wings and landsides must be new or in new condition.

Any level cement or wood floor may be used. If convenient it is recommended that the alignment check of the plow should be made at your nearest Ferguson Dealer's Service Shop.

6. Check for bent saddles or beams by measuring the distance between the share-

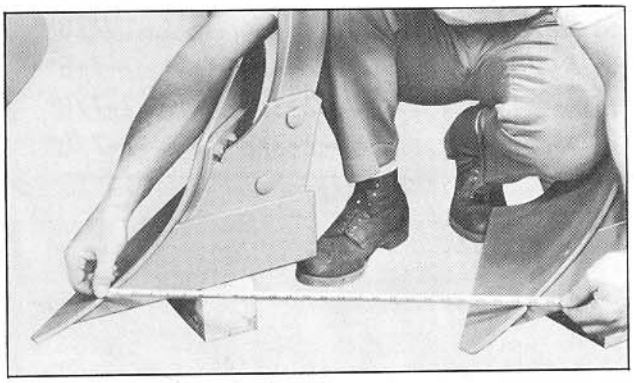


Fig. 21 Bottom Alignment (Landsides)

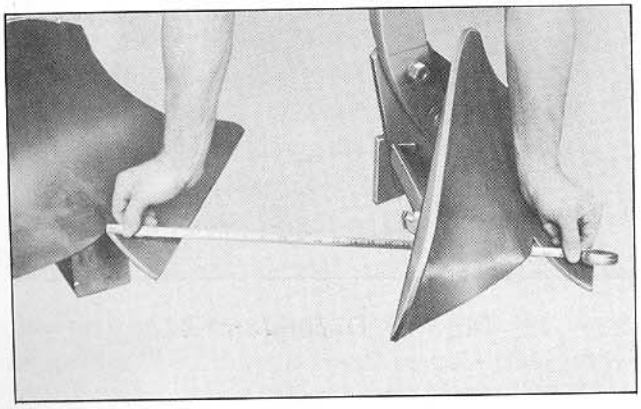


Fig. 22 Bottom Alignment (Wings)

moldboard joint lines at both the landside of the share, see Fig. 21 and the wing of the share, see Fig. 22. The distance should be the same within a plus or minus 1/4 in.

SINGLE BOTTOM PLOWS

1. Place plow on a flat, level surface.

2. Block up landside with the block immediately under the lower beam bolt that goes through the landside. Disconnect the top link from the tractor.

3. Square up the face of the landside with the leveling crank so that it is at right angles with the flat surface.

4. Measure the distance from the flat surface to the center line of the lower beam bolt and call this dimension "A". See Fig. 16.

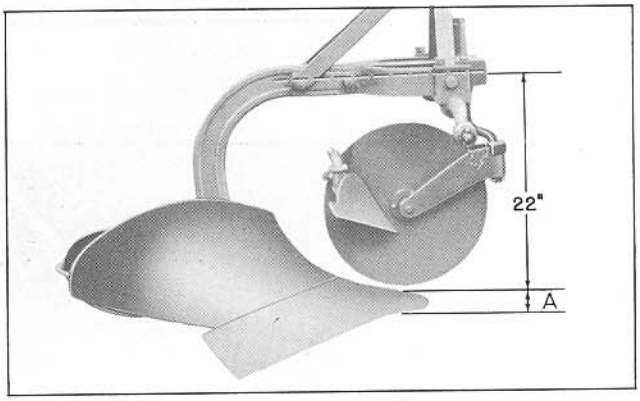


Fig. 23 Checking Single Bottom

5. Raise or lower the front of the plow beam until the distance from the center line of the bolt holes in the beam, Fig. 23, to the flat surface is equal to the measurement "A" plus 22 in.

NOTE: The above dimension is true for the 16 in. plow.

Refer to Table 2 when checking measurements for the 16 in. "C" and "N" plows.

PLOWING WITH THE FERGUSON SYSTEM

The Ferguson Plow when operating with the Ferguson Tractor combines to provide a plowing unit which will meet with your highest expectations. Yet, although this unit is most efficient and reliable, a certain amount of know-how, interest, care and operating skill will be required to insure satisfactory operation. Skill will come quickly through familiarity.

The Owner's Manual for the Ferguson 35 Tractor will serve as a comprehensive guide in acquainting yourself with the operation of the Ferguson Hydraulic System. In this instance, therefore, the description is more brief and specially adapted to plowing with the Ferguson 35 Tractor. Your integrated Ferguson Tractor and Plow, although far ahead in its field, is still simple to operate and easy to comprehend. It is recommended that owners of the earlier model Ferguson Tractors refer to their respective Owner's Manuals for information on plowing with the finger-tip control. Following the same hydraulic principles as incorporated in older Ferguson Tractor models, the Ferguson 35 Hydraulic System has been designed for greater convenience and range of control and now incorporates two controls in two adjacent quadrants, the hydralever and the draft control lever, see Fig. 24.

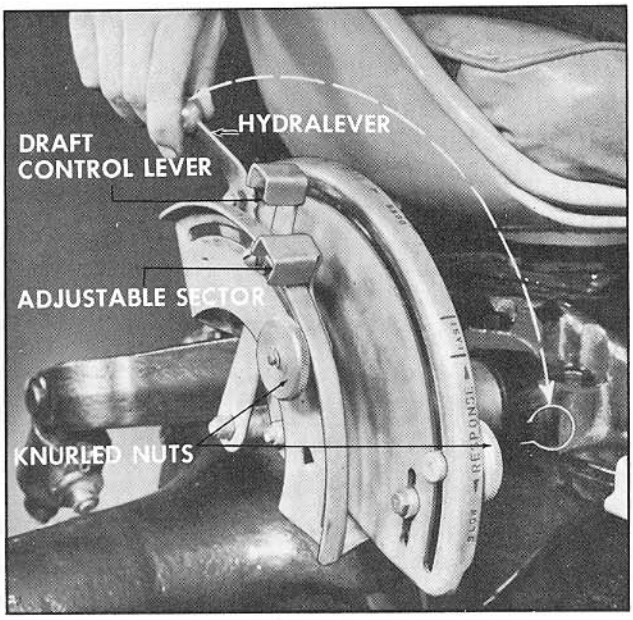


Fig. 24 Ferguson Quadramatic Control

The procedure for entering the plow into the soil from the transport position and operating the plow is as follows:

1. Select the desired gear and range for plowing.
2. Locate the draft control lever about the center portion of its quadrant to obtain an initial depth setting of the plow.
3. Set the throttle control lever to obtain sufficient power to initiate tractor forward motion.
4. Lower the hydralever slowly and deliberately through the position control range to a response setting at or slightly below the halfway position of the response range on the quadrant. While moving the hydralever the clutch should be engaged to motivate the tractor. As the plow enters the soil the throttle setting will have to be increased to compensate for the additional load. Move the throttle control lever until a desired plowing speed has been obtained.
5. Observe the plow as it reaches the depth selected by the position of the draft control lever. If the plow depth exceeds or is less than the desired working depth, the draft control lever can be repositioned accordingly. When satisfactory depth has been obtained, locate the finger grip of the small adjustable sector adjacent to the draft control lever and tighten the knurled nut. This will prevent the operator from inadvertently raising the draft control lever to the transport position as well as aiding in quickly relocating the original setting of the draft control lever after field adjustment.

CAUTION: The draft control lever should not be used for raising the plow to the transport position. See second paragraph page 14, Ferguson 35 Owner's Manual.

With the preceding 5 steps completed the operation of the plow must be noted. The operation or plowing performance will depend on the correlation between plowing speed, draft, and response settings selected. Any alteration in one of these settings will materially affect the function of the remaining two. It is desirable, when plowing, to attain a smooth operation which also provides satisfactory plowing depth, plowing speed and hydraulic response to soil or terrain variations. This may be determined by observation and by the operator's "feel" of the integrated tractor and plow. According to the plowing conditions prevailing further adjustment of the hydralever in the response control range of the quadrant may be necessary. Faster response settings are required in undulating terrain and on land where frequent variations of draft occur due to stones or changes in soil texture.

As a general rule the closer the operator can position the hydralever to the slow response position the more smooth the operation of the combined tractor and plow will be. When the best response setting of the hydralever has been determined by trial, locate the hydralever stop at this point, see Fig. 25. By locating and tightening the stop in position, this same response selection can be maintained after raising and lowering the plow at the ends of the furrow.

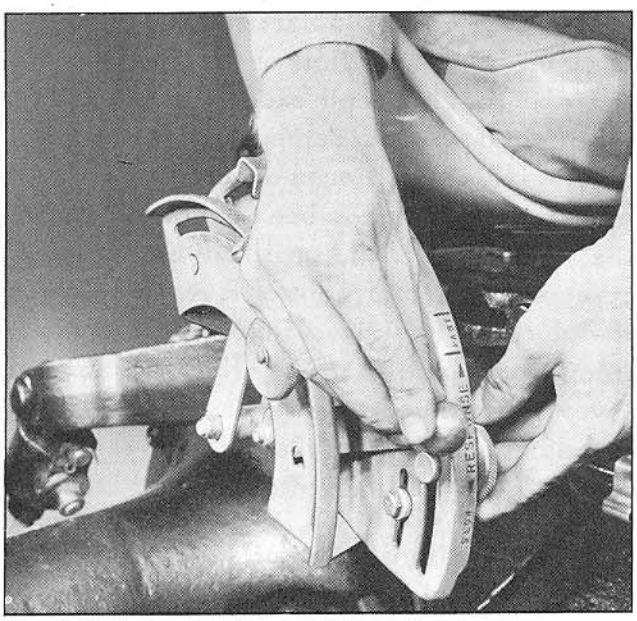


Fig. 25 Locating Hydralever Stop

Where plowing depth is an important consideration, it must be remembered that any subsequent increase of plowing speed will tend to increase draft. The hydraulic system will maintain the original draft selected by raising the plow to a shallower working depth. In other words increased plowing speed will result in shallower working depth and in order to maintain a desired depth, after an increase in speed, it will be necessary to increase the draft setting on the draft control quadrant accordingly. The reverse is true when plowing speeds are decreased.

Variations in soil texture will also affect the depth of plowing. When plowing from a light textured soil to a heavier soil, or vice versa, the increase or decrease in draft will cause the hydraulic system to raise or lower the plow and maintain the original draft setting. This will necessitate a change in the draft setting on the quadrant to maintain even, working depth.

It is strongly recommended that, in normal plowing conditions, the operator should not attempt to plow using the hydralever in the position control range of the quadrant to control the depth of plowing. Position control makes the tractor and plow a rigid unit, which will, in all probability, result in a very unsatisfactory plowing job. On the contrary, it will be seen that by using the draft control lever to select the depth and the hydralever to select the desired response many important advantages are gained. Among these are: automatic flexibility of the tractor and plow to maintain even depth over undulating terrain, constant draft control resulting in smooth operation, and the gaining of tractive weight as needed to prevent excessive wheel slip.

The following conditions or symptoms indicate unsuitable response selection: bobbing, uneven depth, delayed penetration and loss of

traction. A trouble-shooting section of this manual under the title Plowing Difficulties and Corrections, page 21, lists a series of faulty conditions experienced while plowing and presents a summary of their causes and corrections. This section will therefore merit the attention of all Ferguson Tractor and Plow operators.

PLOWING CAPACITY

The following plowing capacity charts are a good indication of performance under normal plowing conditions. It will be noted these charts are based on engine speeds of 1500 and 1750 RPM, the recommended speed range for plowing with Ferguson Tractors. The tractormeter, fitted as standard on the Ferguson 35 Tractor, incorporates a tachometer, which aids the operator in accurately selecting any given engine speed. On earlier model tractors not equipped with tractormeters, engine speeds of between 1500 and 1750 RPM approximately may be obtained by moving the throttle control lever two-thirds open. See Fig. 26 for illustration of tractormeter.

PLOWING AT EXCESSIVE SPEEDS

Even though your integrated Ferguson Tractor and plow is an excellent performer, do not attempt to plow at faster than recommended speeds. Excessively fast plowing creates two undesirable conditions.

1. Personal Injury: Remember that below surface obstructions are not visible to the operator. At speeds above 4 MPH an unprepared for and abrupt stop may cause the operator to be thrown from the seat with serious injuries as a result.

2. Breakage and Premature Wear: Excessive speeds may result in damage not only to the plow but also to the tractor. The action of the automatic overload release built into the hydraulic system is almost instantaneous, even at high speeds. Human reaction is slower, however, and the operator will have insufficient time to effectively disengage the clutch. This delay will permit the Ferguson System to recover the tractive weight and result in possible damage to the implement or tractor. Premature wear of soil engaging parts will also result from excessively high speed operation.

Fig. 26 Ferguson Tractormeter

A quick "rule of thumb" determination of plow capacity can be made by using the formula below:

(Width of cut in feet x speed of tractor in miles per hour = Acres plowed per 10-hour day).

The plow capacity charts which follow are for the Ferguson 35 and Ferguson 30 models respectively. Width of cut for single, two and three bottom plows are included and allowances have been made for slippage, and turning losses. These allowances, however, do not take into consideration the length of field. Short furrows need more frequent turning than long furrows. Excessive turning losses will therefore be experienced in short fields or furrows. The charts will aid in determining the performance of your plow and also help in selecting the most suitable speed range and gear for the existing soil condition.

PLOW CAPACITY CHART
For Ferguson TO-35 Tractor

(Approximate Acres per 10-hour Day)
Allowing for Slippage and Turning Losses

	LOW RANGE 3rd Gear		HIGH RANGE 1st Gear	
	1500 RPM 2.53 MPH	1750 RPM 2.95 MPH	1500 RPM 3.68 MPH	1750 RPM 4.3 MPH
Width of Cut	Acres per 10-hour Day			
16" (one bottom)	3.4	3.8	4.8	5.7
24" (two 12" bottoms)	5.1	5.8	7.3	8.5
28" (two 14" bottoms)	5.9	6.9	8.5	9.9
32" (two 16" bottoms)	6.7	7.7	9.7	11.5
36" (three 12" bottoms)	7.5	8.8	10.9	12.7
42" (three 14" bottoms)	8.9	10.4	12.8	15.0

PLOW CAPACITY CHART
For Ferguson TO-30 Tractor

(Approximate Acres per 10-hour Day)
Allowing for Slippage and Turning Losses

	LOW GEAR		2ND GEAR	
	1500 RPM 2.48 MPH	1750 RPM 2.9 MPH	1500 RPM 3.42 MPH	1750 RPM 4.0 MPH
Width of Cut	Acres per 10-hour Day			
16" (one bottom)	3.3	3.7	4.5	5.3
24" (two 12" bottoms)	5.0	5.7	6.8	8.0
28" (two 14" bottoms)	5.8	6.8	8.0	9.3
32" (two 16" bottoms)	6.6	7.6	9.0	10.7
36" (three 12" bottoms)	7.4	8.7	10.2	11.9
42" (three 14" bottoms)	8.7	10.2	11.9	14.0

PLOWING PROCEDURES

Good plowing methods and characteristics vary from one part of the country to the other, depending upon the type of farming, but normally they are all intended for good seedbed preparation. Most parts of the country require that trash, or surface residue, be covered completely; while other parts, particularly semi-arid areas, require a portion of the surface residue to be mixed with the topsoil. In discussing plowing procedures therefore this manual will be confined to more general methods acceptable in most parts of the country.

Fig. 27 illustrates a few of the well known terms as applied to the quality of plowing and the plowing operation.

LEVELING THE PLOW

During the normal plowing operation, when one tractor rear wheel is in the furrow and the other on plowed ground, turn the leveling crank until the cross-shaft of the plow is on a parallel plane with the ground. Incorrect leveling will be noticable in uneven or improper turning of the soil and undesirable furrow walls. It is advisable to make a final leveling adjustment during plowing while the plow is turning the soil.

When during plowing the tractor's rear wheels are on the same level plane (such as when completing a dead furrow) turn the leveling crank to level the plow with the ground so that all bottoms cut at a desired depth.

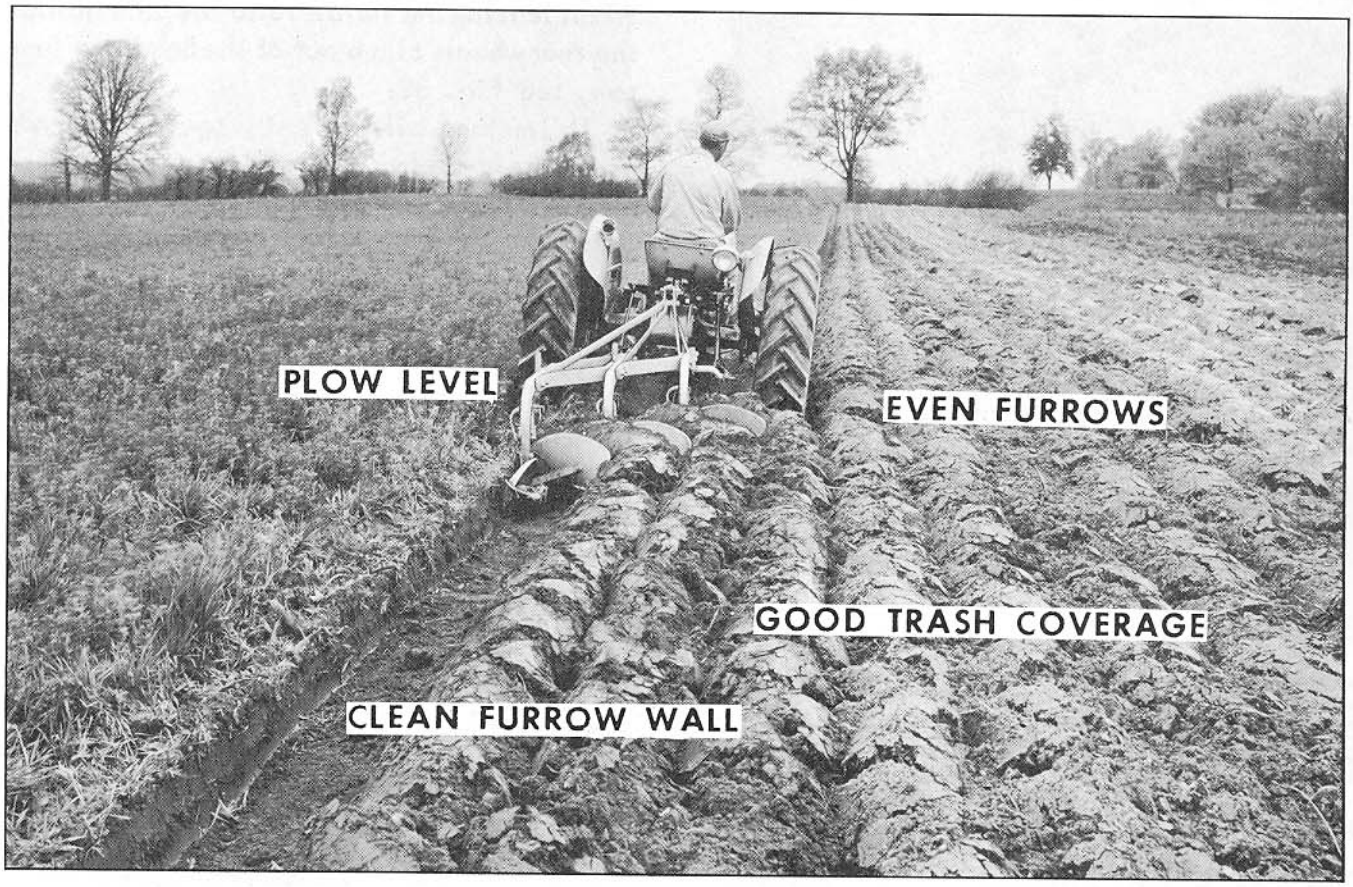


Fig. 27 Plowing Terminology

HEADLAND FURROW

Headland furrows should be cut with the soil turned toward the land to be plowed, Fig. 28. Opening a headland furrow affords an advantage in that it makes possible quick plow penetration at each entry and also helps keep the ends of the furrows even.

Fig. 28 Plowing Headland Furrow

ENTERING THE FURROW

When entering the furrow, lower the plow just as the rear wheels climb out of the headland furrows. This will insure a full plowing depth from the start. This method of entry also helps to make the job of finishing the land easy. See Fig. 29.

LEAVING THE FURROW

When leaving the furrow raise the plow just as the rear wheels climb out of the headland furrow, see Fig. 30.

This method will prevent jagged furrow ends along the headlands and will make for cleaner and better plowing when finishing these outside lands.

With plows having more than two bottoms the finished furrow ends along the headland furrow will have a pronounced saw-tooth appearance due to the staggered positions of the bottoms. For this reason it is more difficult to finish evenly. The function of the headland furrow, therefore, becomes essential as it is the only clearly visible marker point at which to raise the plow on completing a pass.

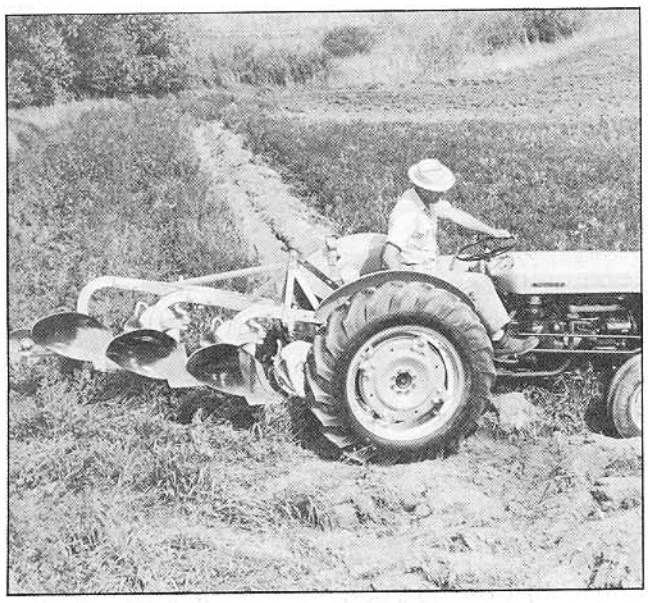


Fig. 29 Entering the Furrow

Fig. 30 Leaving the Furrow

OPEN FURROW STRIKE-OUT

One method of opening land is by the use of the open furrow strike out or the Canadian back furrow. This procedure plows all the ground in the opening process, allowing the ground to be weedfree. This method can be used when the ground must be left level or when a back furrow is not wanted. The following steps outline the procedure in this method of plowing. (Refer to Fig. 31 through Fig. 34 for these various steps).

1. Tilt the plow to the left with the leveling crank. Make the first cut across the field with the rear bottom at about half the normal plowing depth. See Fig. 31.

Fig. 31 1st Pass - Open Furrow Strike-out

Fig. 32 2nd Pass - Open Furrow Strike-out

Fig. 33 3rd Pass - Open Furrow Strike-out

2. With the leveling crank in the same position, make the return trip with the left wheel of the tractor in the furrow. See Fig. 32. The location of the tractor wheel in the furrow will depend upon the width of the plow being used. This cut will be made slightly deeper than the first cut to provide a furrow wall for the furrow wheel.

3. The third time across the field place the right wheel in the furrow made in Step 2, level the plow cross-shaft and set the draft control lever (finger-tip control lever on older model tractors) for the desired plowing depth. See Fig. 33.

4. Place the tractor right wheel in the furrow made in Step 1, keeping plow cross-shaft

still level. Finish the opening of the field. See Fig. 34.

Fig. 34 4th Pass - Open Furrow Strike-out

Fig. 35 Completed Open Furrow Strike-out

Fig. 35 illustrates the result of this method.

STRIKE-OUT FURROW

When opening up a new land, no matter what type of opening is to be used, tilt the plow to the left by turning the leveling crank. This will keep the center ridge height to a mini-

Fig. 36 Strike-out Furrow

Fig. 37 Completing Back Furrow

mum. The amount of tilt is largely determined by the number of bottoms on the plow and experience in the field. See Fig. 36. Fig. 37 illustrates the proper position of the tractor for the return pass to complete the back furrow.

FINISHING A LAND

THREE BOTTOM PLOW

On the next to the last pass through the field, adjust the draft lever for shallower plowing to prevent an unnecessarily deep dead furrow, and adjust the plow with the leveling crank so that the rear bottom plows at about half the normal depth. Leave enough space on the unplowed strip for two bottoms to cut on the last pass. With a 3-12 in. plow leave 24 in. and leave 28 in. with a 3-14 in. plow. See Fig. 38.

On the last pass, turn the leveling crank so that the plow is leveled as in normal plowing. See Fig. 39. Plow at normal depth. Remember that a furrow wall will provide stability on this last run because on the previous pass the plow had been set for shallower plowing depth and the plow had been leveled so that the rear bottom was plowing about half the normal depth. On this last pass plow with the right wheels in the furrow as in normal plowing.

This method will provide a clean finish and a dead furrow of minimum depth.

TWO BOTTOM PLOW

Finishing a land with a two bottom plow is basically the same as with a three bottom plow. An exception, however, will be on the next to last pass when the tractor wheels will span the unplowed strip and the tractor will be level or nearly level.

Level the plow with the ground. Reduce plowing depth to prevent an unnecessarily deep dead furrow, and to provide a furrow wall for the last pass. Leave sufficient room on the unplowed strip for one bottom to cut on the last pass. With a 2-14 in. or 2-16 in. plow, place the left front wheel of the tractor against the furrow wall. With a 2-12 in. plow the left front wheel should be in the middle of the furrow. This will leave a strip of ground for the last pass across the field, wide enough for one plow bottom to make a full cut.

Fig. 38 Next to Last Pass-Three Bottom Plow

Fig. 39 Last Pass - Three Bottom Plow

When making the last pass, adjust plowing depth so that the rear bottom will cut at normal or a little more than normal depth.

PLANNING FIELD LAYOUT

The plan as illustrated in Fig. 40 shows that the field is laid out in lands and plowed out in straight furrows. First, plow a headland furrow the full distance across both ends of the field, leaving ample room to make turns. Then follow the procedure shown in Fig. 40.

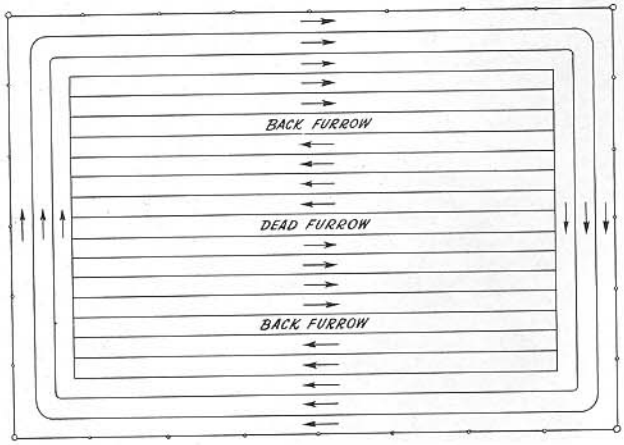


Fig. 40 Rectangular or Square Field

Irregularly shaped fields may require transverse plowing of very short lands for reasons of drainage, or top soil displacement. In such cases where furrows are very short, turning may become troublesome. For these short furrows, raise the plow and back the tractor after each furrow slice, rather than turning.

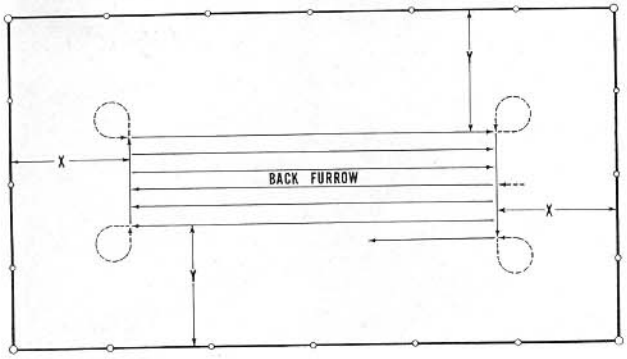


Fig. 41 Starting at the Center

PLOWING USING SQUARE CORNERS

1. This plan is often used when dead furrows in the center of the field are not desirable. See Fig. 41. Start with a short back furrow in the approximate center of the field. Back furrow a few rounds until the distance "X" is equal to the distance "Y", then start plowing furrows across the ends, making complete turns at the corners by looping to the left.

In this way, the plowed land gradually grows outward and the dead furrows are left at the extreme outside of the field.

2. Another method of plowing using square corners is to plow around the field from the outside, raising the plow at the corners. See Fig. 42. When the distance across the end of the field becomes too short, discontinue plowing the ends. To close the field, plow out the corners of the field, as shown.

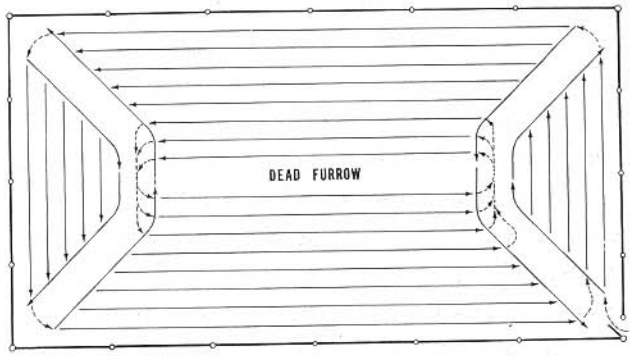


Fig. 42 Finishing at the Center

CONTOUR PLOWING

Contour plowing can be successfully carried out with the Ferguson Tractor and Plow. The use of a survey map indicating elevations is however recommended. If in any doubt regarding existing changes in elevation or the soil condition and the drainage requirements when contour plowing, consult your local County Agricultural Agent, who will advise you regarding elevations and also put you in touch with experts on soil.

NOTE: All of the layout plans discussed and illustrated in this section should be reversed occasionally in order to avoid excessive displacement of top soil.

PLOWING DIFFICULTIES AND CORRECTIONS

Listed below are some of the more common difficulties which may be encountered during the plowing operation. Keep these in mind while operating and correct difficulties as they occur. Fig. 43 illustrates some of the more common difficulties and the type of plowing which should not be done. Fig. 27, page 15, illustrates a good plowing job.

Fig. 43 Poor Plowing

RIDGING

Cause A. The front plow bottom cutting narrower than the rear plow bottom.

Correction: 1. Set tractor rear wheels at correct setting of 52 in. rear, 48 in. front.

2. Make the correct setting of the cross-shaft, see page 4.

3. Make the correct adjustment for width of cut, see page 5.

Cause B. One plow bottom not plowing on the same level as the other.

Correction: Level the plow with the leveling crank until satisfactory results are obtained, see page 15.

Cause C. Coulters not in adjustment.

Correction: See adjustment on coulters, page 4.

Cause D. Excessive moisture content: The packed soil from the tractor wheel tracks made on the preceding pass, preventing proper penetraion and pulverization.

Correction: When plowing, the moisture content of the soil should be such that proper pulverization can be obtained. In this case, plowing should be delayed until the soil moisture content is lower.

Cause E. Irregular tractor speeds.

Correction: Maintain constant forward speeds. One trip at low speed followed by a trip at high speed, will show definite ridging.

BOBBING

Cause A. Plowing at excessive speeds in hard or rapidly varying soil texture.

Correction: Reduce speed until smooth operation is obtained.

Cause B. Excessive draft setting. Plow working too deep.

Correction: Reduce draft setting for less depth and smoother operation.

Cause C. Excessive FAST RESPONSE setting of hydralever in RESPONSE range of quadrant when plowing in rapidly varying soil texture.

Correction: Move hydralever down to slower RESPONSE setting. The FAST RESPONSE position is not generally recommended for plowing.

Cause D. Plow out of adjustments causing bottoms to suck or penetrate excessively.

Correction: Check and correct the adjustments of plow.

UNEVEN DEPTH OR DIFFICULT PENETRATION

Cause A. Rolling coulters set too low.

Correction: In extremely hard soil conditions the coulter should be raised to about half the depth of plowing. If the coulter is set too low over the point of the share in hard soil

conditions, it may tend to lead the plow out of the ground causing insufficient penetration. However, too high a setting may cause a ragged furrow wall due to inadequate cutting of the plant roots.

Cause B. Plow shares badly worn or incorrectly sharpened.

Correction: Resharpen and/or reshape the plow shares to conform as nearly as possible with a new share. Replace excessively worn shares with new shares.

If there is insufficient stock in the share to resharpen, a new share must be installed. It is suggested that the owner keep a spare set of shares in stock at all times. "N" bottom "throw away" shares should be replaced when badly worn.

Cause C. Plow bottoms not level.

Correction: Level the plow bottoms with the leveling crank, page 15.

Cause D. Hydralever in POSITION CONTROL range. In this range the Hydraulic System will hold and maintain plow in fixed position except when thrown into Overload Release.

Correction: Move hydralever into correct setting in RESPONSE RANGE and use draft control lever to select desired depth.

Cause E. Loss of flexibility: RESPONSE setting too slow for undulating land or varying soil texture.

Correction: Adjust hydralever in RESPONSE range for faster response.

Cause F. Too wide plow bottoms for particular soil condition.

Correction: The wider the plow bottom, the less chance it has to penetrate the ground. Where penetration is difficult, clipped wing shares can be used to an advantage, see Figs. 58 and 59. Consult your Ferguson Dealer.

If plowing must be done under extremely hard, dry and rocky conditions with wide bottoms, penetration may be aided by cutting off a portion of the share at the wing. This type of share is usually known as a clipped wing share.

PLOW NOT SCOURING

Cause A. Paint, rust, or original protective coating on the moldboard or share.

Correction: See reference under lubrication, page 2, concerning use of lubricant to protect soil engaging parts.

Remove rust by buffing, or if rust is not severe it may be removed by a few rounds of plowing in a sandy, dry soil. Remove protective coating on new plows.

Cause B. Rolling coulters incorrectly set.

Correction: See coulter adjustment, page 4. Set the coulters just to the left of the following landside.

LOSS OF TRACTION

Cause A. Hydraulic System has been thrown into Overload Release by plow striking obstruction. Reduced weight on rear wheels causes them to spin.

Correction: Disengage clutch. Back tractor, raise plow, pass over or remove obstruction and then resume plowing.

Cause B. Excessive RESPONSE setting of hydraulic system incurring fast reaction to draft variations, when plow meets small obstructions or sudden and extreme changes in soil texture.

Correction: Move hydralever to a lower response setting.

Cause C. Wheel spin due to worn tires or need for tire fill.

Correction: Consult you Ferguson Dealer.

PLOW NOT COVERING TRASH

Cause A. Rolling coulter and jointer incorrectly set.

Correction: See Adjustment Section.

Cause B. Plow not level.

Correction: Level with leveling crank.

Cause C. Excessive amount of trash.

Correction: Large tall weeds, sweet clover, alfalfa, etc. may be turned under and covered satisfactorily with the use of weed hooks, see Fig. 57. These may be purchased from your local Ferguson Dealer.

PLOW CLASSIFICATION AND ACCESSORIES

PLOW BOTTOMS

Different plowing conditions sometimes require various shapes and sizes of plow bottoms, as well as different kinds of material from which they are made. These conditions will vary with the type of soil, moisture content and the surface coverage.

Types of soil will vary from close-textured heavy clay, gumbo, black loam, muckland, to sandy soils. Clay and gumbo soils require good penetration and good scouring. Sandy soils require moldboards made from abrasive-resistant materials.

Good penetration depends largely upon the adjustment and condition of the plow but may be improved with the use of the smaller bottoms.

In general a greater degree of pulverization is obtained through the use of bottoms which incorporate quick-turning moldboards. These moldboards also provide better trash coverage in corn, oat, wheat or rye stubble.

It has been found that the greatest resistance to soil abrasion is obtained through the use of chilled cast iron materials. This material is extremely hard, has long life in abrasive soils, but has low resistance to shock.

For greater convenience there are available the following plow bottoms which will meet your plowing needs.

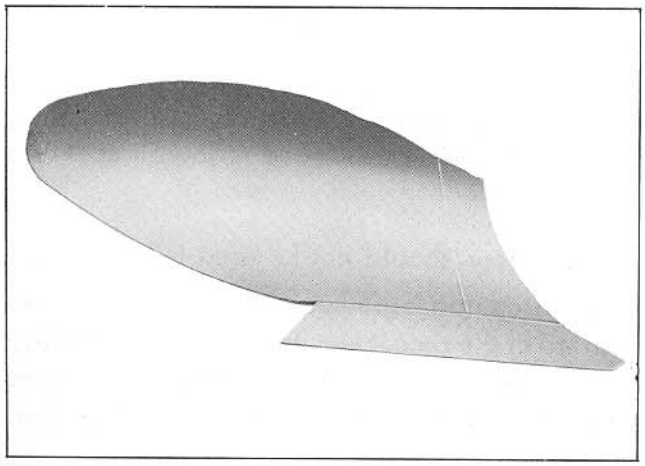


Fig. 44 "N" Bottom

"N" BOTTOM

Good, all-round general purpose bottom with low cost share and replaceable moldboard shin, see Fig. 44.

Under most operating conditions the new Ferguson "N" Bottom Plow will provide a satisfactory bottom for economical and all-round general purpose plowing. The "N" bottoms are available in 12, 14, and 16 in. sizes and are adaptable to a variety of soil conditions as well as to those areas which require deep plowing. Your Ferguson Dealer can give you more information regarding these new "N" bottoms.

"R" BOTTOM

Conventional type general purpose bottom suitable for a variety of soils.

The general purpose "R" bottom, as shown in Fig. 45 incorporates a long moldboard which results in slow turning for sod turf, such as clover, timothy, alfalfa and young tame sods. It is also more adaptable for faster plowing speeds.

"B" BOTTOM

Conventional type sod or clay bottom for moderate depth plowing.

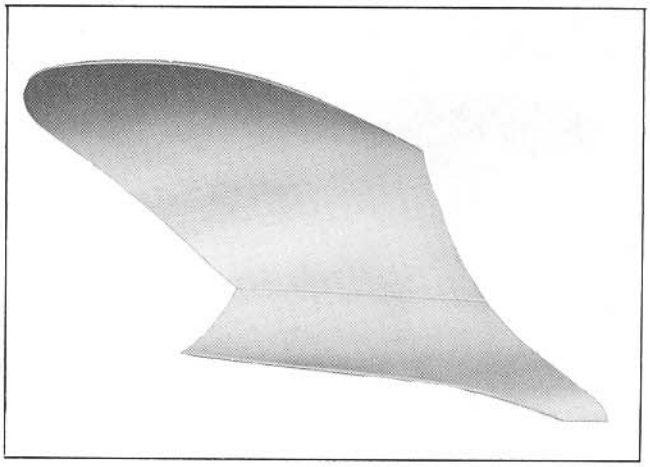


Fig. 45 "R" Bottom

The sod and clay "B" bottom as shown in Fig. 46 has similar characteristics as the general purpose "R" bottom, however it is more adaptable for plowing sod or very stiff clay where penetration or pulverization is a problem. The narrower "B" bottom has been designed to provide greater suck.

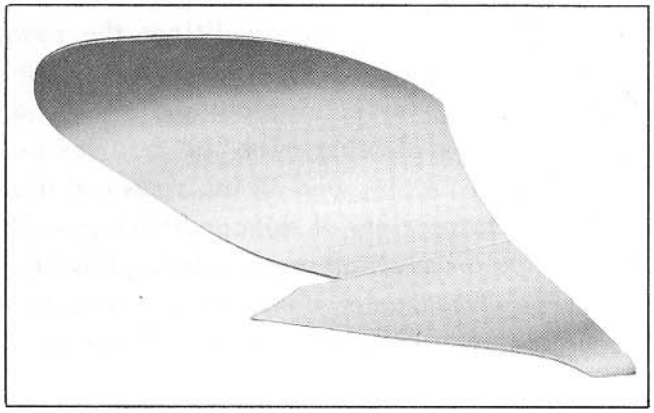


Fig. 46 "B" Bottom

"C" BOTTOM

Conventional type general purpose bottom for extra deep and trashy plowing.

The general purpose "C" bottom as shown in Fig. 47 is adaptable to a wide range of soil conditions and is consequently useful in all parts of the country. The bottom is especially adaptable for deep plowing conditions. It also incorporates excellent trash covering characteristics.

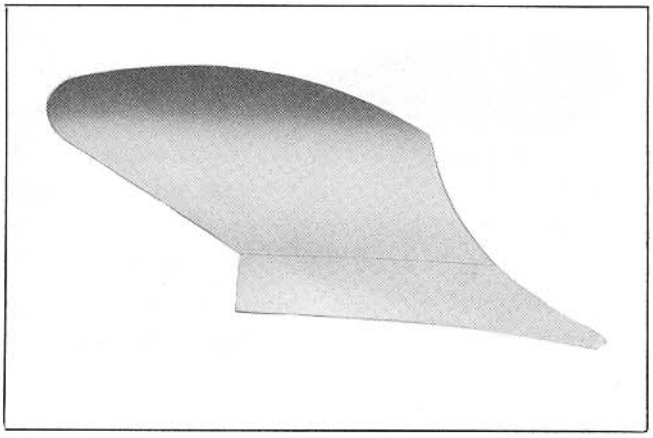


Fig. 47 "C" Bottom

PLOW SHARES

For your convenience to meet the varying soil conditions, there are also available plow shares manufactured from different materials.

When ordering service shares first consult your Ferguson Dealer concerning the type of shares needed.

IMPORTANT: Always keep sufficient shares on hand for replacement purposes in order to avoid any delay during the plowing season.

CHILLED CAST IRON

In extremely abrasive soils such as sandy and volcanic ash soils, cast iron shares will wear better than steel and are more inexpensive. They should not be used in stony soil.

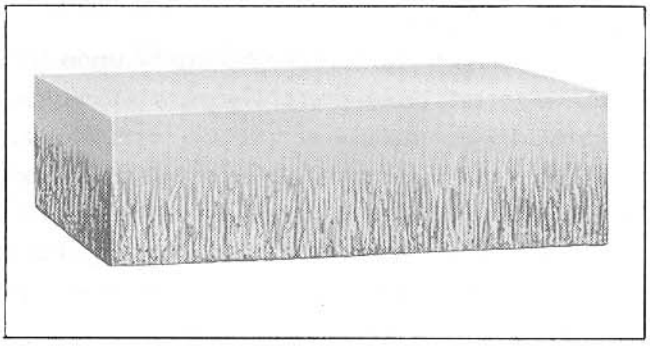


Fig. 48 Chilled Cast Iron

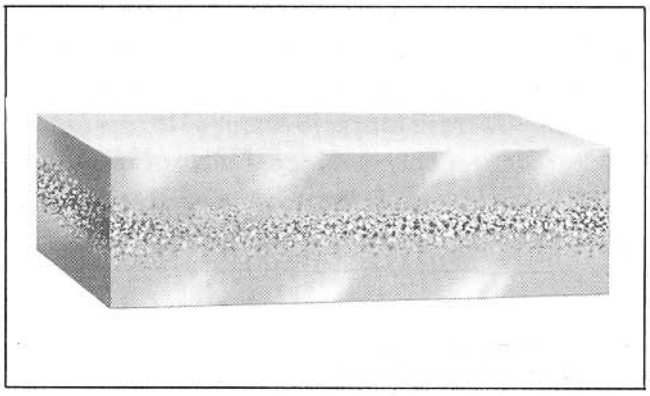


Fig. 49 Carburized Alloy Steel

Chilled iron is grey cast iron which has been chilled at the time it was poured into the molds. This causes a very hard and brittle iron to form in the area cooled. If broken, this chilled iron will appear as a bright and glittering metal, see Fig. 48.

CARBURIZED ALLOY STEEL

These shares are highly resistant to wear and moderately resistant to shock. They are provided with a good polish to scour exceptionally well in sticky soils. Low carbon alloy steel put into a carburizing furnace and heated to a high temperature absorbs carbon on its outer surfaces. This increased carbon content in the outer surfaces provides a hard, wear-resistant surface, while the center remains soft to absorb shock, see Fig. 49.

SOFT-CENTER STEEL

These shares are primarily used in difficult scouring areas.

The soft-center shares consist of three separate layers of steel. The two outer layers have a high carbon content and the center layer has a low carbon content. The three layers are hot-rolled together, which fuses them into a single sheet of metal. During the heat treating process the two outer layers harden due to the high carbon content, and the middle layer remains soft, see Fig. 50. This steel provides a very hard surface and a soft, ductile core which helps to absorb shock. This share is not recommended for rocky conditions.

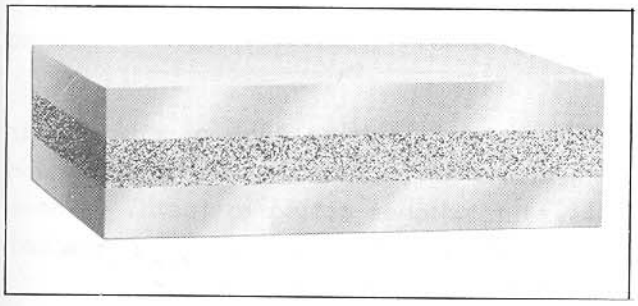


Fig. 50 Soft Center Steel

CRUCIBLE OR FORGED STEEL

These shares are used where scouring is not a problem. They are tough and highly resistant to shock, but are not exceptionally wear-resistant to abrasive soils. Crucible or forged steel shares are made of one material, see Fig. 51, without the hard and soft layers. This steel has a slightly lower carbon content than the hard areas of the other two types of shares.

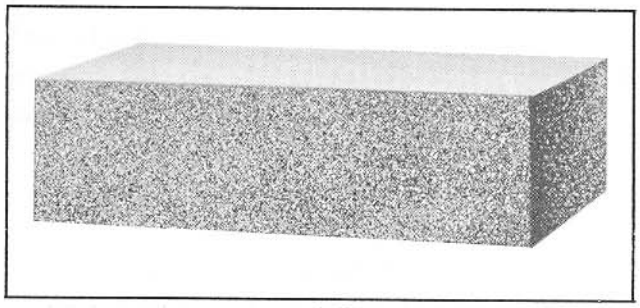


Fig. 51 Crucible or Forged Steel and High Carbon Through Heat Treated Steel

HIGH CARBON THROUGH HEAT-TREATED STEEL

This material is used only in the "N" bottom shares. It is heat treated to provide a hard wearing surface yet at the same time to retain good shock resisting characteristics, see Fig. 51.

NOTE: Crucible or forged steel and high carbon through heat-treated steel are similar in appearance. Fig. 51 illustrates a typical cross-section of either of these types of steel.

ACCESSORIES

MOLDBOARD EXTENSION

Certain moldboards may require moldboard extensions when plowing in prairie or old sod soils in which it is difficult to roll over the furrow slice or to turn furrows uphill. A moldboard extension, illustrated in Fig. 52, is available. Extending beyond the moldboard, it controls the furrow slice after it passes the moldboard. Some Ferguson Plows are provided with two plow bolts in the moldboard to permit installation of this extension.

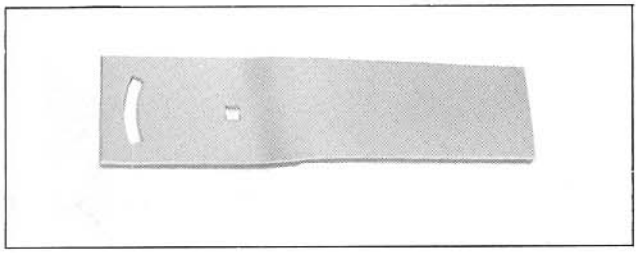


Fig. 52 Moldboard Extension

COULTERS

Various models of coulters are available which can be used on the moldboard plow. Fig. 53 illustrates the plain rolling coulter made in either a 16 in. or 18 in. diameter. If difficulty is encountered with coulter cutting trash, the notched or cutaway rolling coulter, Fig. 54, should be used. Two sizes of this model are also available, the 16 in. and 18 in. diameters. The coulters are available either with or without jointers.

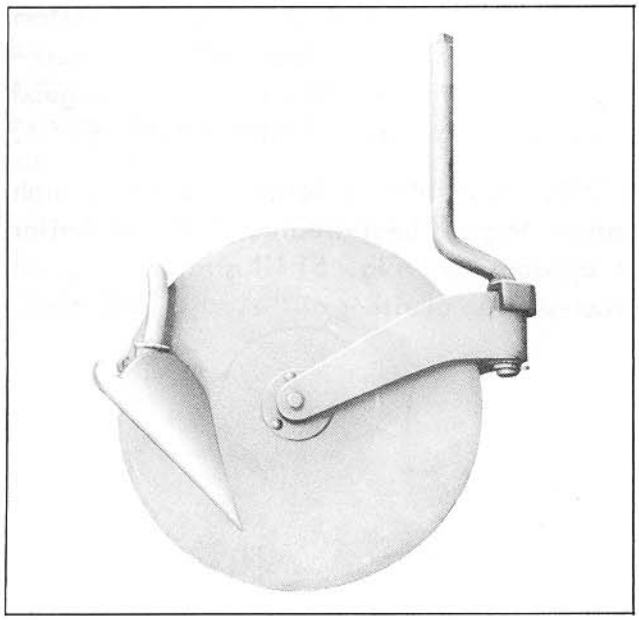


Fig. 53 Plain Rolling Coulter

Fig. 54 Notched Coulter with Plain Jointer

The notched cutting edge of this coulter permits rotation under adverse plowing conditions, the notches acting as teeth. Where trash is thick and deep rooted the notched coulter may prove more efficient.

Local experience and consultation with your Ferguson Dealer will help you to decide on the advisability of using coulters together with jointers or jointers without coulters.

JOINTERS

There are two types of jointers available, the plain blade, shown in Fig. 54, and the winged blade, shown in Fig. 55. It is recommended that the plain blade jointer be used on 12 and 14 in. bottoms in normal plowing conditions. The winged blade jointer should be used

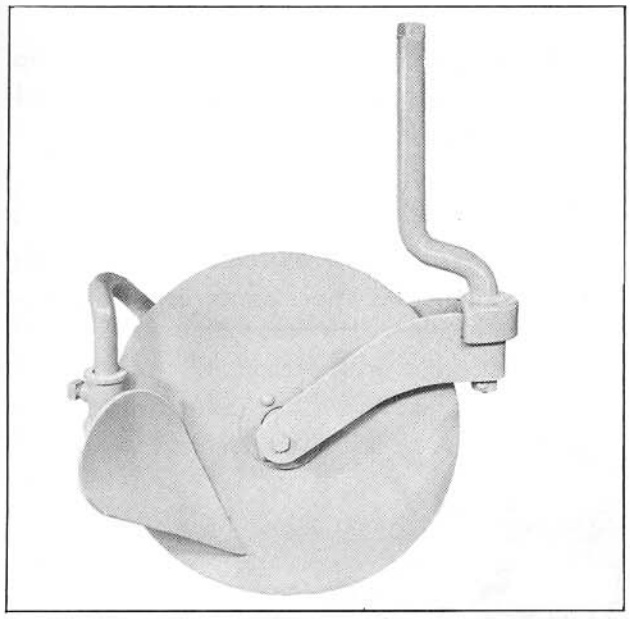


Fig. 55 Winged Blade Jointer

on the 16 and 18 in. bottoms in all plowing conditions where a jointer is desirable.

STANDING JOINTERS

In soil conditions, where the use of a coulter is not necessary, it may still be desirable to provide a slight opening of the furrow slice. This is especially true in mellow soils where surface trash is light and easy to cover.

A special standing jointer, see Fig. 56, is available which can be used to replace the coulter and jointer assembly and is particularly adaptable to these soil conditions. The jointer is the same as used on the coulter and jointer assembly, but an extended jointer stem is used to allow clamping to the plow beam.

NOTE: This section which describes available accessories has been designed to aid you, the owner of a Ferguson Moldboard Plow, in the selection of any extra equipment that may be needed according to the soil conditions prevailing.

It is strongly recommended, however, in case of difficulties experienced when plowing land to consult your Ferguson Dealer. Wide experience with Ferguson equipment and extensive knowledge of the local soil problems encountered make your Ferguson Dealer competent to give sound advice regarding any individual problem and the selection of the most suitable accessory for satisfactory plowing.

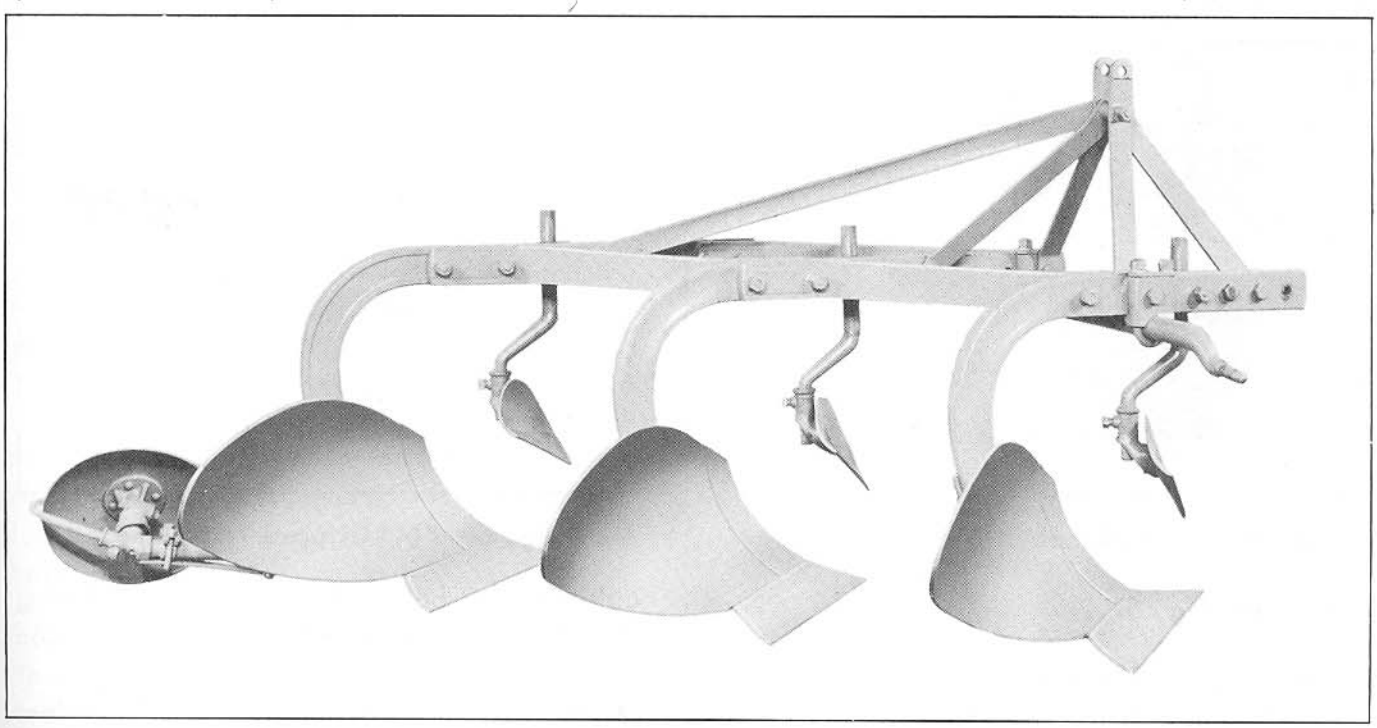


Fig. 56 Plow Equipped with Standing Jointers

WEED HOOKS

Under extremely trashy plowing conditions, it may be found that the plow will not make a satisfactory coverage of weed and trash. This is especially true in sweet clovers, rye, and tall grasses, etc. Special weed hooks are available to attach to the plow to assure adequate coverage, Fig. 57.

In mounting the weed hooks to the plow beam, the curved tine should be on top of the straight tine to properly swing the hooks away from the tractor when backing. The clamp should be placed on the beam so it is parallel with the ground.

CLIPPED WING SHARES

When operating in extremely rocky soils or in soil conditions where penetration is difficult, it may be helpful to use clipped wing shares. These are available from your Ferguson Dealer. See Figs. 58 and 59 for examples of clipped wing shares together with their standard counterparts.

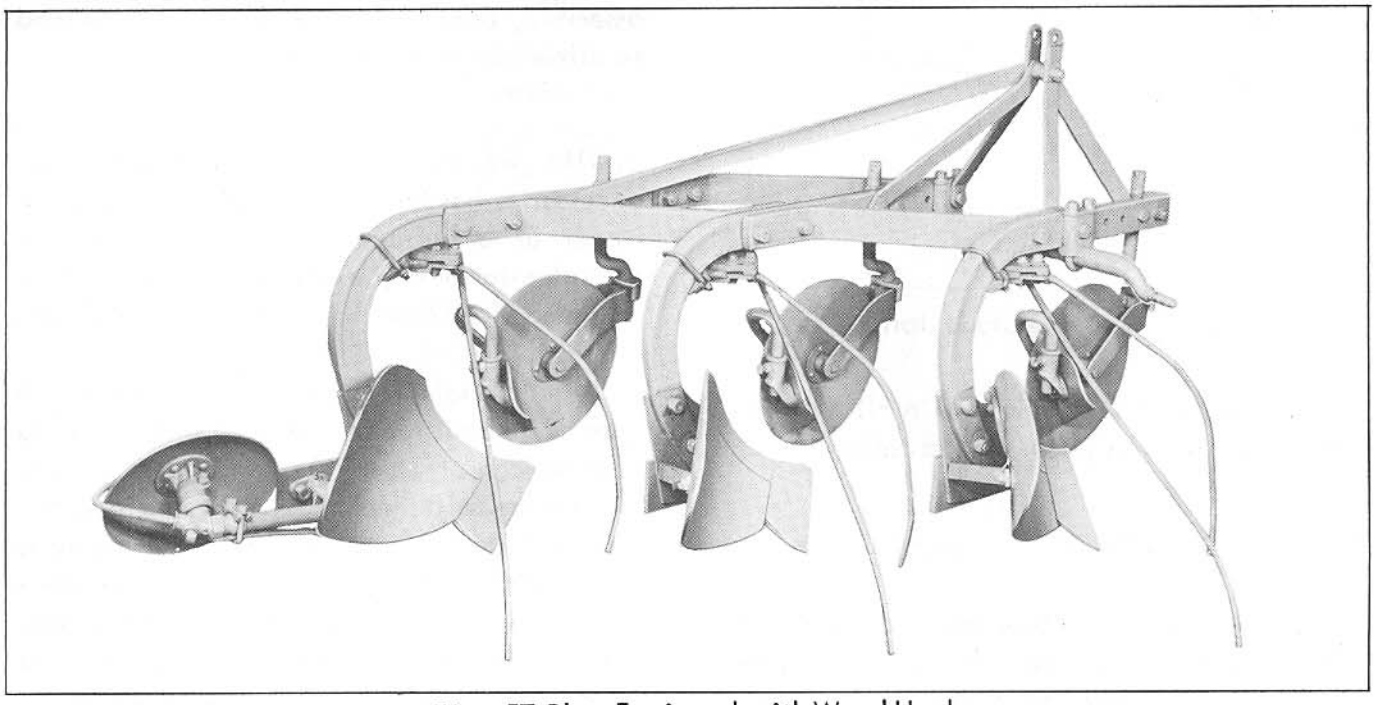


Fig. 57 Plow Equipped with Weed Hooks

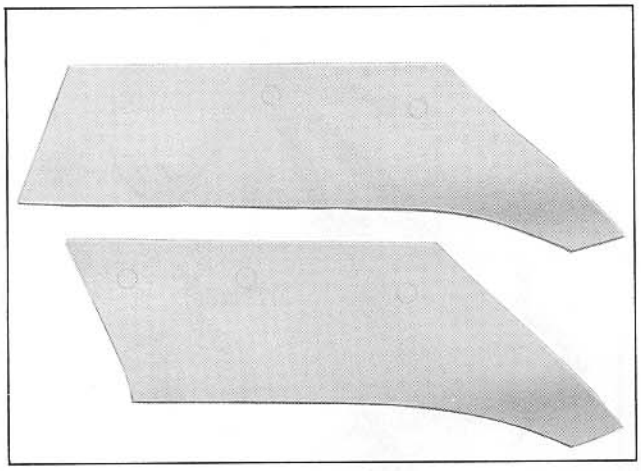


Fig. 58 Conventional Clipped Wing Share

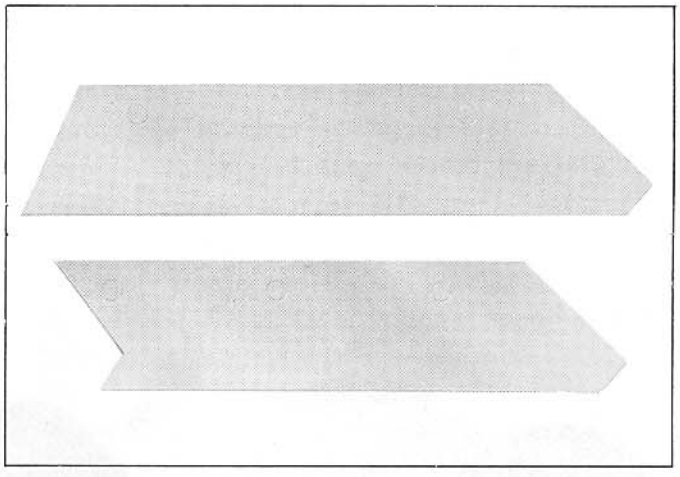


Fig. 59 "N" Clipped Wing Share

ASSEMBLY INSTRUCTIONS

All plow assembly should be performed on a flat, level floor, preferably a concrete or asphalt surface.

1. To assemble the two bottom plow, attach the frame and beam assembly to the tractor and raise it to the desired height with the tractor Hydraulic System.

2. Install all bolts and nuts finger tight until the assembly is complete.

This will permit easier visual alignment and adjustment of the plow before tightening the bolts or completing the assembly operation.

3. Attach the plow bottom with the shorter landside to the front beam.

4. Assemble the plow bottom with the long landside to the rear beam and attach the furrow wheel assembly.

5. Mount the coulter and jointer assemblies, as required, on the plow.

It is necessary to use the third bottom conversion kit to assemble a three bottom plow. To assemble a three bottom plow, assemble the third beam, brace and strut as outlined in the following "Third Bottom Kit" section. Assemble the plow bottom with the long landside and the furrow wheel on the third beam and complete the assembly as above.

6. Lower the plow to the floor and make sure that all bottoms are resting level on the floor. Adjust the coulter jointer assemblies, see Figs. 6 and 8, page 4 , and tighten all bolts and nuts.

7. Use a suitable paint or varnish remover to remove the protective coating from the coulters, jointers and plow bottoms to insure quick scouring of these soil engaging parts.

THREE BOTTOM PLOW CONVERSION KITS

Conversion kits to change two bottom 12 and 14 in. plows to three bottom plows are available. The installation of these kits utilizes the existing parts on the two bottom plow; consequently only those parts which are necessary are included.

The third bottom conversion kit may be easily added when the plow is attached to the tractor as outlined below. The third bottom kit parts are shown in a darker shade in the illustration, see Figs. 60 through 62.

NOTE: Assembly of the third bottom should be performed on a flat, level floor, preferably a flat cement or asphalt surface. In assembly, tighten bolts only finger tight until assembly is completed.

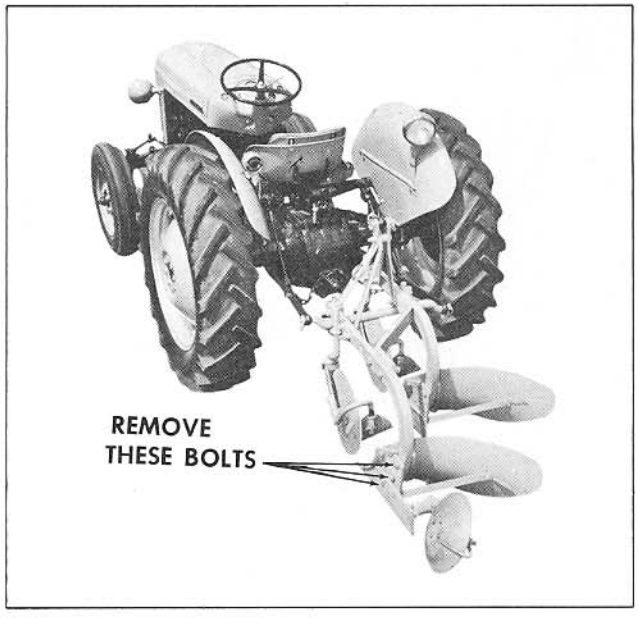


Fig. 60 Remove Bottom from Second Beam

1. Lower the plow on a level surface and remove the three bolts securing the rear bottom to the beam, see Fig. 60.

2. Raise the plow with the tractor hydraulic system, lifting the beam out of the bottom, and move the bottom and furrow wheel assembly to the third bottom location, see Fig. 61.

3. Place the kit bottom in position, lower the plow and secure the kit bottom of the second beam with the bolts provided in the kit.

4. Assemble the braces to the second beam with 5/8 x 4-1/8 and 5/8 x 4-3/4 bolts and the third beam to the braces with the bolts removed from the second beam and new 5/8 x 2-7/8 bolts.

5. Mount the strut brace between the third beam and the strut assembly replacing the strut bolt with a 5/8 x 3-7/8 bolt.

6. Raise the plow and position the bottom and furrow wheel under the third beam.

7. Lower the plow and secure the rear bottom to the third beam using the bolts removed in Step 1.

8. Mount the combination coulter jointer assemblies and coulter stem seat with the coulter eye bolt and the 5/8 x 2-1/8 bolt to the third beam.

9. Before tightening the bolts make sure the plow is resting with all bottoms level on the floor.

10. Adjust combination coulter jointer assembly and tighten all nuts and bolts securely, see Figs. 6 and 8, page 4.

An alternative method to the one outlined above is to remove the second beam and bottom assembly complete with furrow wheel. Then install the kit beam and bottom in the second bottom position completing the assembly by attaching the rear bottom and kit braces.

11. Use a suitable paint or varnish remover to remove the protective coating from the coulter, jointer and plow bottom supplied with the kit to insure scouring of these parts.

Fig. 62 illustrates the completed three-bottom plow.

Fig. 61 Position Kit Assembly as Shown

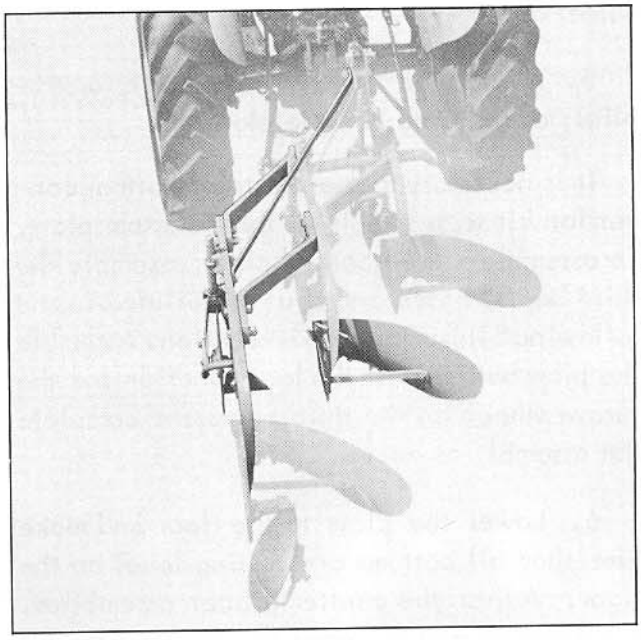


Fig. 62 Complete Three Bottom Plow

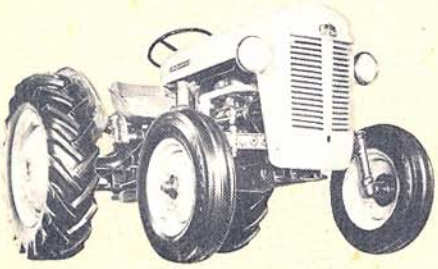
INDEX OF ILLUSTRATIONS

INDEX (cont'd.)

See Your Ferguson Dealer for Information

— ON —

THE FERGUSON TRACTOR AND FERGUSON SYSTEM IMPLEMENTS



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- Two-Way Plows
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- Rigid-Tine Cultivators
- Lister Cultivators
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- Balers
- Forage Harvesters
- Multi-Purpose Blades
- Sub Soilers
- Manure Spreaders
- Manure Loaders
- Corn Pickers
- Corn Planters
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