



THE  
MOLDBOARD  
PLOW

SERVICE  
MANUAL

HARRY FERGUSON, INC. • DETROIT 3, MICHIGAN

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## INTRODUCTION

A study of the cropping practices and soil conditions on the farm permits the proper selection of a plow to obtain the benefits from good plowing.

Of all the soil tillage operations, *good plowing* contributes more than any other to good seed bed preparation and subsequently *successful farming*.

A well pulverized, but firm, seed bed stimulates *quick seed germination* and controls soil temperature, aeration and plant food supply. This guarantees *greater better development* and subsequently *larger yields*.

This manual has been prepared especially for the *dealers' service personnel* and is to help provide a more thorough understanding of plow operation through plow selection and field adjustments.

*NOTE: For convenience of the reader, each illustration carries the same number as the page on which it appears.*

# THE MOLDBOARD PLOW

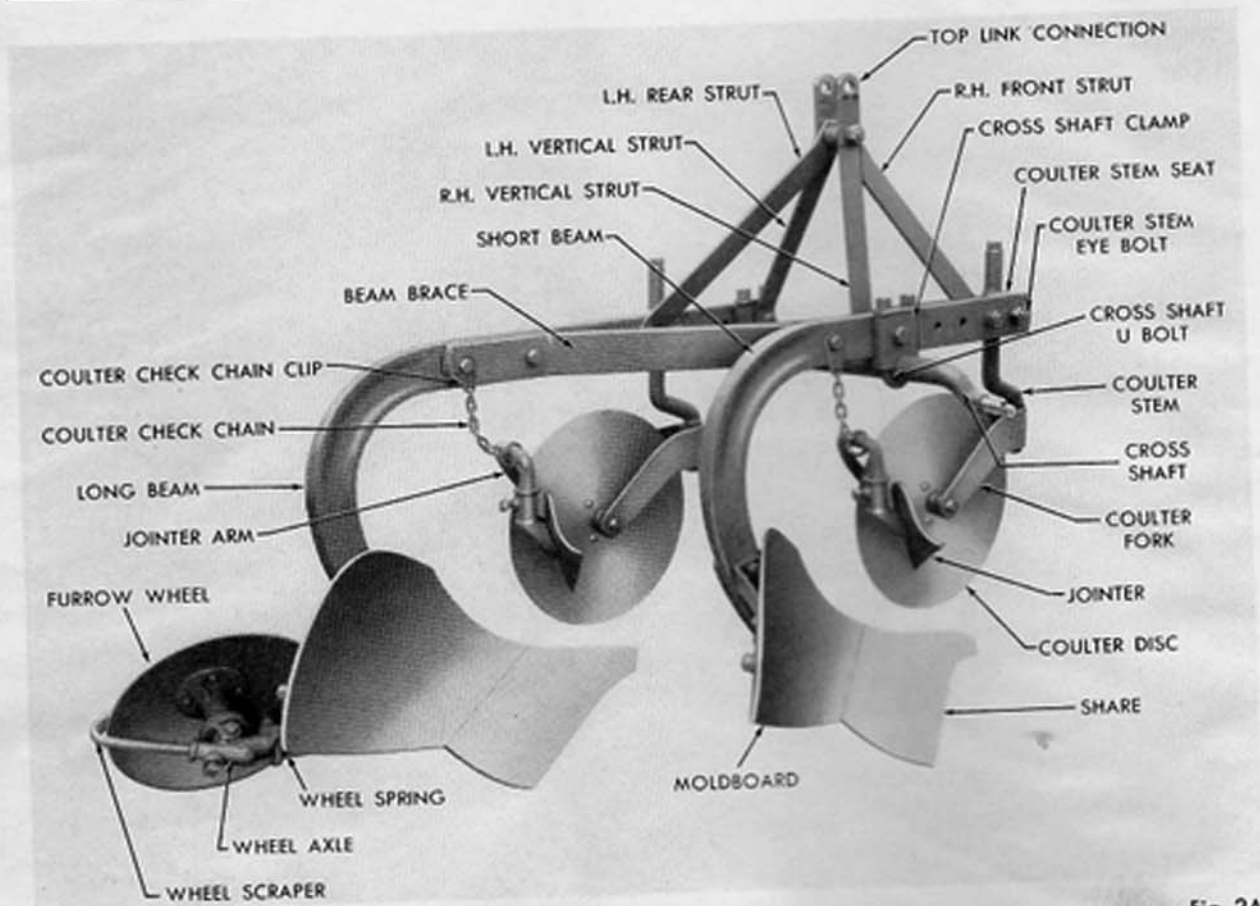


Fig. 2A

Model AO-28—Two Bottom Plow

Model 16A-AO-28  
Sixteen Inch Single Bottom Plow

Weed Hooks  
For tall weeds or heavy surface residue

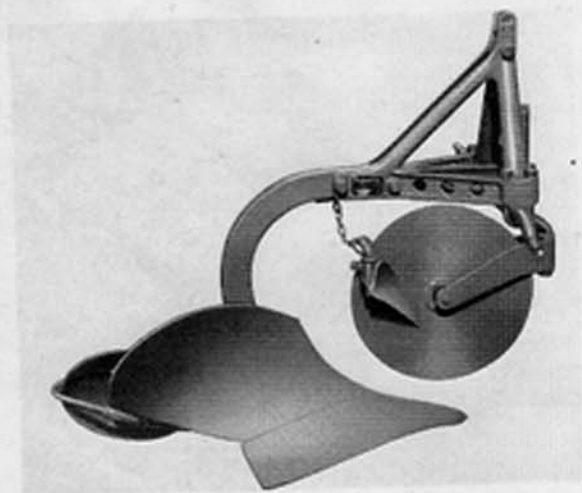


Fig. 2B

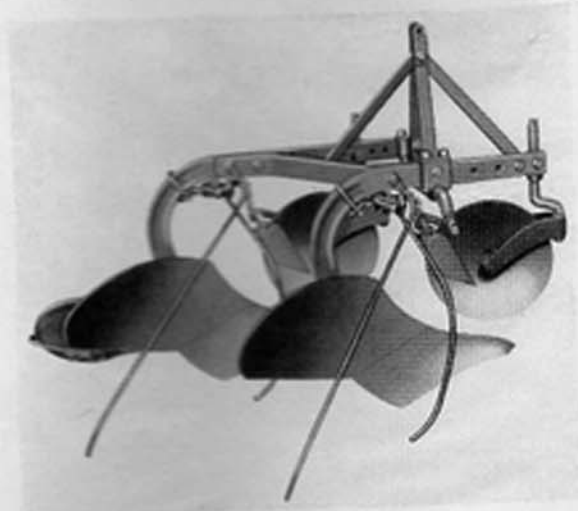


Fig. 2C

# THE MOLDBOARD PLOW

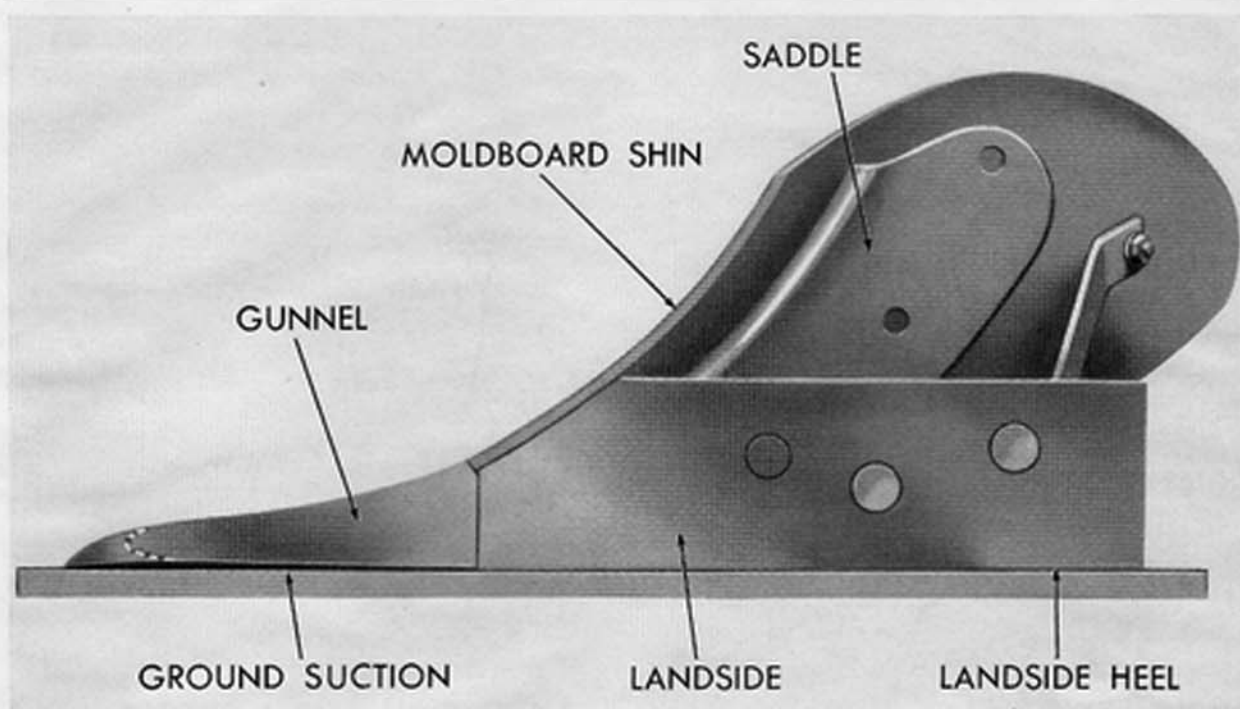
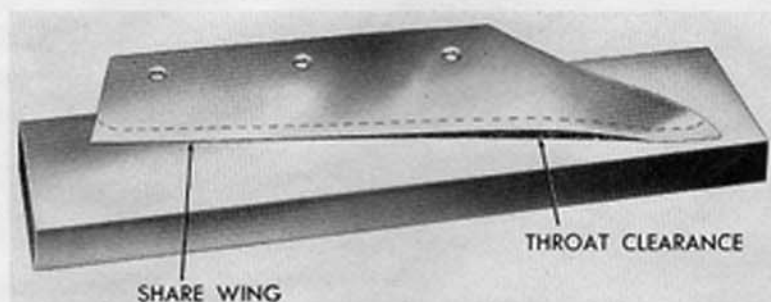


Fig. 3A



**Moldboard Extension**  
For controlling the furrow slice when plowing old sod ground.

Fig. 3B



Fig. 3C

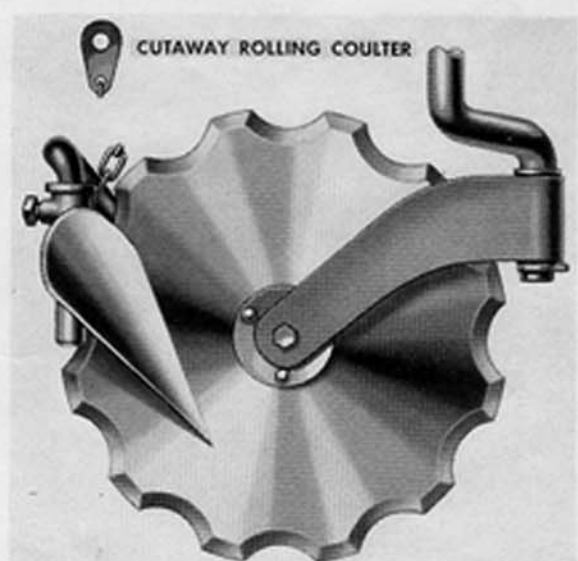


Fig. 3D

# THE MOLDBOARD PLOW

## Plowing Terminology

Good *Plowing* characteristics vary from one part of the country to the other, depending upon the type of farming, but normally they are all characteristics of good seed bed preparation. Most parts of the country require that trash, or surface residue, be covered completely; while other parts, particularly the semi-arid areas where sub-surface tillage is practiced, require a portion of the surface residue to be mixed with the soil.

Fig. 4 and Fig. 5 illustrate a few of the terms as applied to the quality of plowing and the plowing operation.

The *plow sole*, or sometimes known as *hard pan*, is a layer of soil which is difficult to penetrate, and is usually found near the bottom of the furrow. This condition normally exists when the ground is plowed year after year at the same depth, permitting the fine silt that settles through the top soil to collect and concentrate at the depth of plowing.

Additional terms, which apply to the operation

of the plow, are noted on page 9 under the heading "Plowing Difficulties, Causes and Corrections."

## Plow Models and Types

The *Plow model* number indicates how the plow is equipped.

AO-28 is a complete plow, Fig. 2a, with 16" rolling coulters and bottoms.

AO-30 is a complete plow with 18" rolling coulters and bottoms.

AO-40 is a complete plow with 16" rolling coulters less bottoms.

The *plow type* number (12-B, 14-R, etc.) indicates the shape and size of the plow bottom.

## Plow Bottom Characteristics

Different plowing conditions require various shapes and sizes of plow bottoms, as well as different kinds of material from which they are made. These condi-

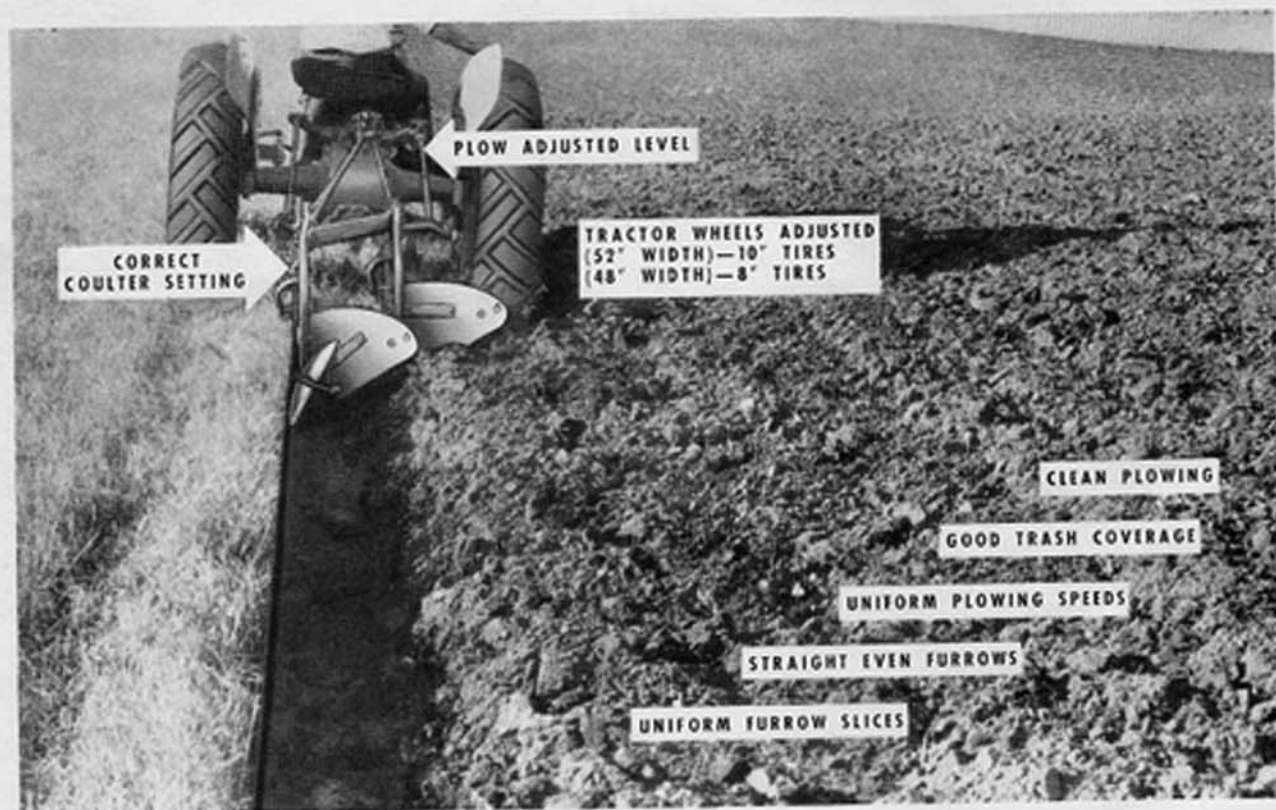


Fig. 4

# THE MOLDBOARD PLOW

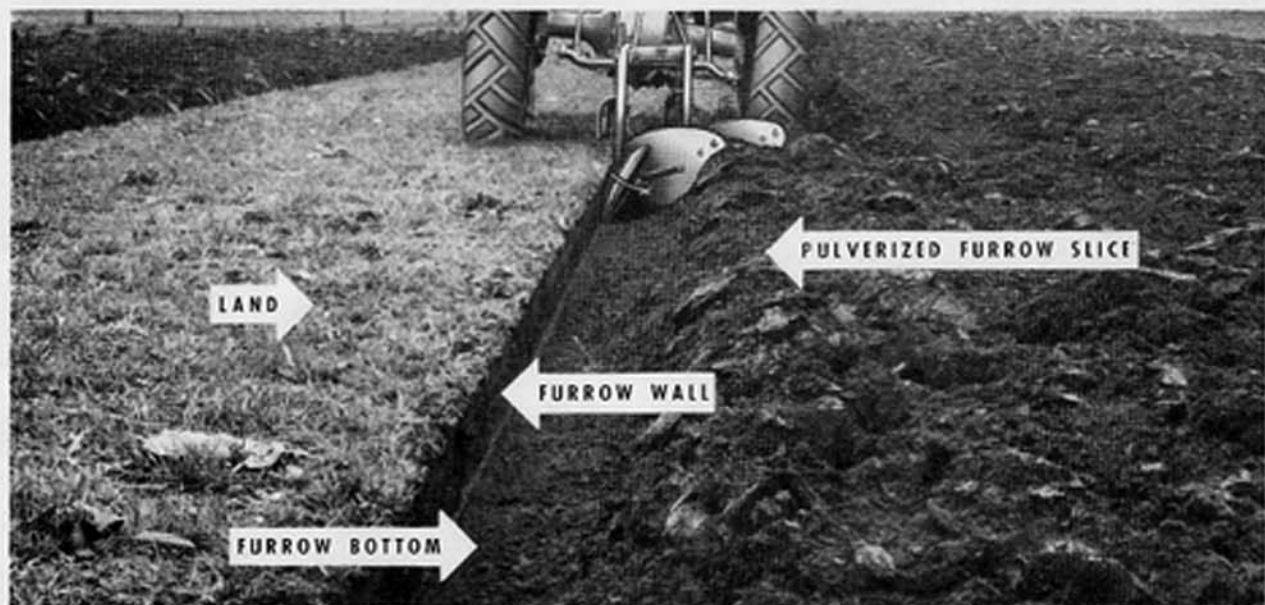


Fig. 5

tions will vary with the type of soil, moisture content, and the surface coverage.

The 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 quick turning 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, such as the ten and twelve inch sizes.

*Greater pulverization* is obtained through the use of stubble type bottoms which have quick turning moldboards and provides better coverage of trash in stubble ground such as corn, oats, wheat or rye stubble.

*The greatest resistance to soil abrasiveness* is obtained through the use of chilled cast iron bottoms. This material is extremely hard, and is less resistant to shock, but does not wear as rapidly as do the steel bottoms.

*Scouring difficulties* are aggravated with increase of moisture content in the soil. The shape of the

moldboard for good scouring is such as to create more uniform soil pressure over the moldboard, and thereby keep the soil from sticking to it. Small moldboards, with highly polished surfaces, are well adapted to meet these conditions.

The *fundamental characteristics* of plow bottoms, which will help select the type of bottom, after the soil conditions and cropping practices have been considered, are:

1. The depth of plowing should be about one-half the width of the bottom for best coverage and pulverization. A 14" bottom will do its best work when plowing 7" deep.
2. Greater penetration is obtained from using narrow bottoms. A 10" bottom penetrates better than 16" bottoms.
3. Greater coverage is obtained from using wide bottoms. A 16" bottom covers trash better than a 12" when working at the same depth.

The *Stubble "S" TYPE*, Fig. 6a, bottom, has a short, quick turning moldboard, primarily for very *hard scouring conditions*.

# THE MOLDBOARD PLOW

When plowing under these conditions, the "S" TYPE bottom covers trash better, and pulverizes the soil more than other types of bottoms.

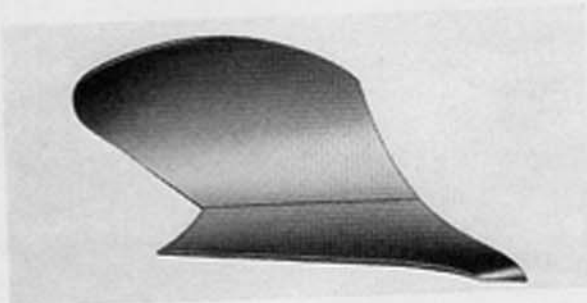


Fig. 6A

The *General Purpose* "R" TYPE, Fig. 6b, bottoms with a long moldboard provides slow turning for sod turf, such as clover, timothy, alfalfa, and young tame sod ground. It is also more adaptable to faster plowing speeds.

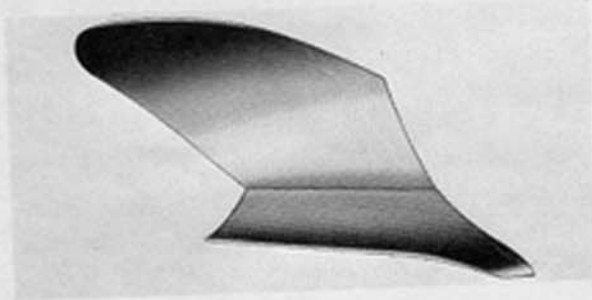


Fig. 6B

The *Slat* "E" TYPE, Fig. 6c, bottoms are adapted particularly for areas of extremely difficult scouring. The slats provide less moldboard surface which helps prevent the soil from sticking.

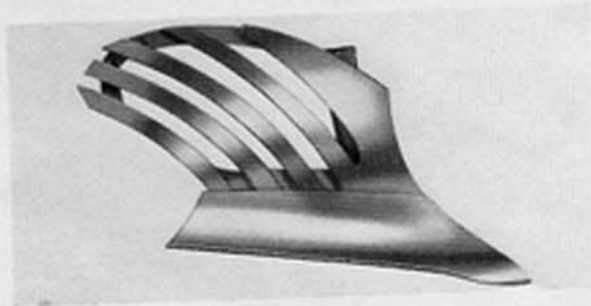


Fig. 6C

The *Chilled* "I" TYPE, Fig. 6d, bottoms are of the general purpose type, designed with chilled cast iron for abrasive soil conditions, such as encountered in sandy, gravelly, clay and shale soils.

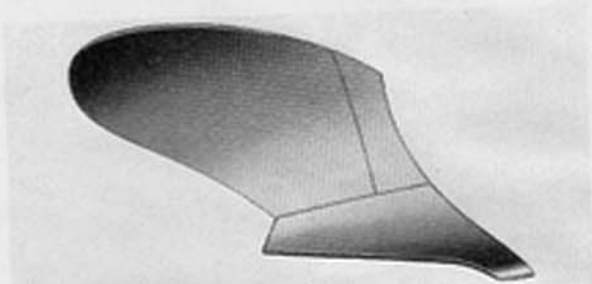


Fig. 6D

The *Scotch* "H" TYPE, Fig. 6e, bottom is especially adapted to heavy close-textured clay soils. In this type soil the furrow slice is not pulverized, but turned on edge to permit aeration and eventual crumbling of the soil, which usually takes place in the winter months after fall plowing, to permit good seed bed preparation.

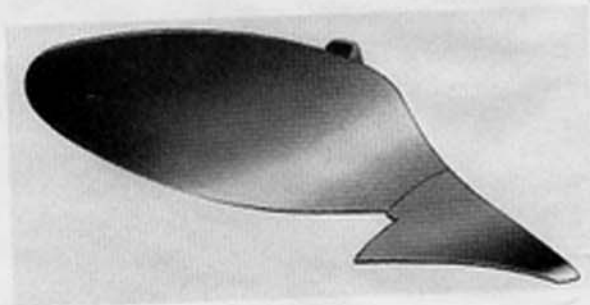


Fig. 6E

The *Sod and Clay* "B" TYPE, Fig. 7a, bottoms are a general purpose type for handling heavy clay, gumbo soils, and being designed with slow turning and good scouring features, it is well adapted for tame sod ground.

The *General Purpose* "A" TYPE bottom, shown on the single plow, Fig. 2b, is very similar to the general purpose "R" type bottom but has a shorter moldboard and turns the furrow slice quicker than the "R" type.



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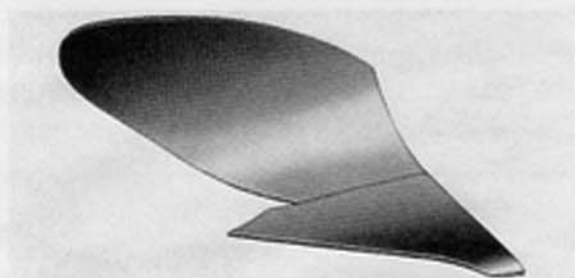


Fig. 7A

## Plow Share Classification

### "C"—Chilled Cast Iron.

For use in extremely abrasive soil conditions. This cast iron share will wear better than steel in sandy and volcanic ash soils.

Chilled iron is grey cast iron which has been chilled at the time it is poured into the molds. This causes a very hard and brittle iron to form in the area cooled. If broken, this chilled iron area will appear as a bright and glittering metal, Fig. 7b, in contrast with dull, dark, soft cast iron.

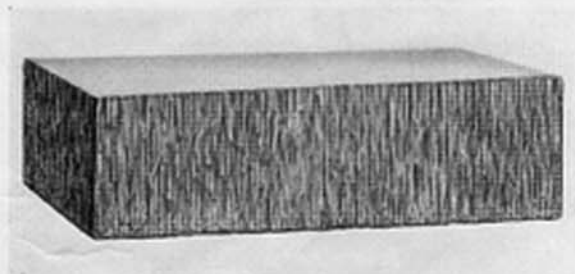


Fig. 7B

### "E"—Carburized Steel.

Highly resistant to wear and shock. It is provided with a good polish to scour well in sticky soil conditions.

Carburized steels are low carbon content steels. Steel put into a carburizing furnace and heated to a high temperature absorbs carbon on its outer surfaces. This increases the carbon content in the outer surfaces to

such an extent that when the steel is hardened the outer surfaces become hard and the center remains soft, as shown in Fig. 7c.

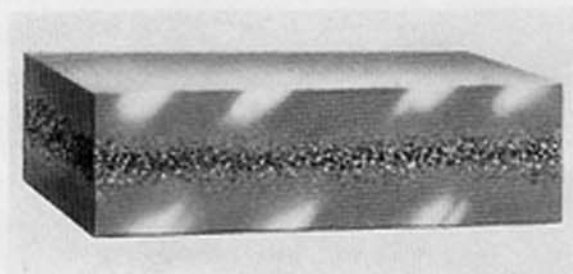


Fig. 7C

### "D"—Soft Center Steel.

Used in difficult scouring areas and highly resistant to wear.

Soft-center steels consist of three separate layers of steel. The two outer layers have a high carbon content. The center layer has a low carbon content. 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 because of the high carbon content, and the middle layer remains soft, see Fig. 7d. This steel provides a hard surface and a soft, ductile core to withstand considerable impact without breaking.

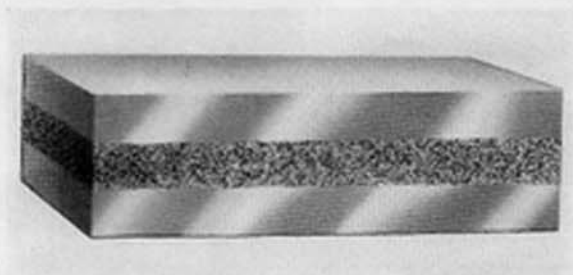


Fig. 7D

### "B"—Crucible or Forged Steel.

Used where scouring is not a problem. It is tough or highly resistant to shock, but is not as wear-resistant to abrasive soils.

Crucible or forged steel shares are made of one piece, Fig. 8a, without the hard and soft

layers. This steel has a lower carbon content than the hard areas of the other two types of steel.

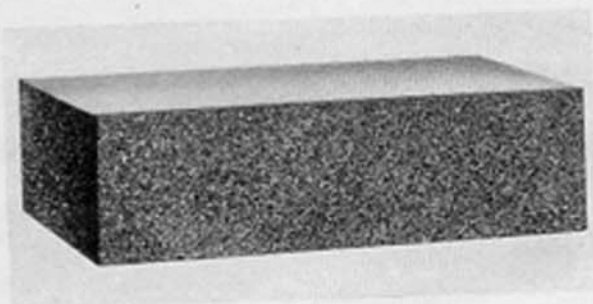


Fig. 8A

## Plow Share Identification

Plow shares are usually stamped with the identification on the back side in a series of letters and numbers, such as 14" RD-AO-121. The following indicates the purpose of each part number.

### SIZE:

First Whole Number Indicates Width of Cut

### TYPE:

First Letter Indicates Type of Bottom

### MATERIAL:

Second Letter Indicates Share Material

### CODE:

Third Letter Indicates Plow Parts  
Fourth Letter Indicates Made in U.S.A.  
Last Number Indicates Part Number

**EXAMPLE**—14" RD-AO-121 is a 14" plow share of the general purpose type with a soft center steel, made in the U.S.A., part number 121.

## Service Shares for A, B, H, E and I Bottoms

Part Number 120 includes share, bolts and nuts,  $\frac{1}{4}$ " thick.

Part Number 121 includes share only,  $\frac{1}{4}$ " thick.

\*Part Number 130 includes share, bolts and nuts,  $\frac{5}{16}$ " thick.

\*Part Number 131 includes share only,  $\frac{5}{16}$ " thick.

## Service Shares for R and S Bottoms

Part Number 120 includes share, bolts and nuts,  $\frac{5}{16}$ " thick.

Part Number 121 includes share only,  $\frac{5}{16}$ " thick.

Part Number 130—No Listing.

Part Number 131—No Listing.

\*Install shim A-AO-9570, Fig. 8b, under moldboards, when using these service shares, on all bottoms except R and S type.

**NOTE:** New plows with  $\frac{5}{16}$ " service shares will have the shim installed at the factory, except for early model "S" bottoms which had the saddle offset.

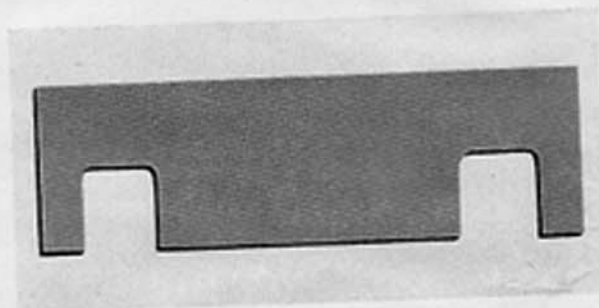


Fig. 8B

## Share Maintenance

The biggest secret of good plowing is proper plow share maintenance. Sharpen or replace worn shares promptly. Keep all bolts securely tight, and protect with a good rust-preventive when not in use.

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## PLOWING DIFFICULTIES, CAUSES AND CORRECTIONS

### Ridging

**Cause (A):** The front plow cutting wider or narrower than the width of the plow bottom.

**Correction:** Adjust the rear tractor wheels, Fig. 4, to the narrowest spacing:

48" for 8" Tires.

52" for 10" Tires.

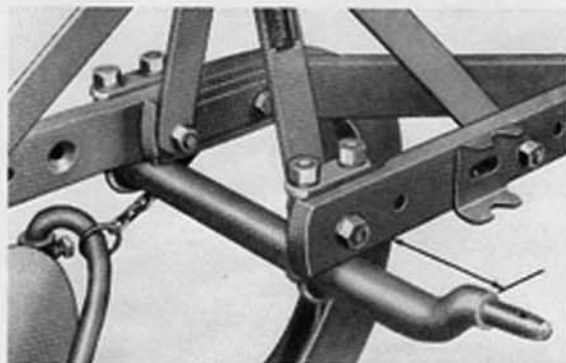


Fig. 9A



Fig. 9B

Locate and adjust the plow cross shaft on the left side, Fig. 9a, until the following measurements are obtained between the beam and the shoulder at the end of the cross shaft.

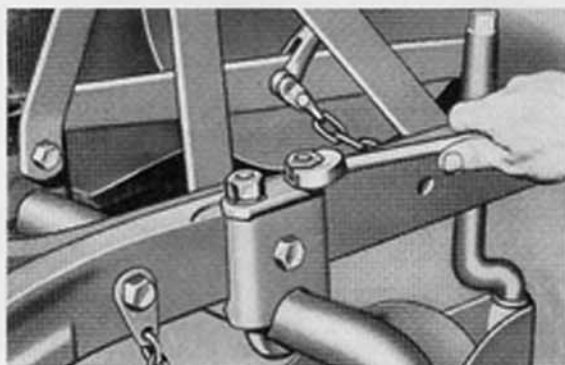


Fig. 9C

10" Two Bottom  $9\frac{3}{8}$ "

12" Two Bottom  $7\frac{1}{2}$ "

14" Two Bottom  $3\frac{1}{2}$ "

16" Single Bottom  $8\frac{7}{8}$ "

To adjust the width of cut, Fig. 9b, of the front base, loosen the U bolts, Fig. 9c, which fasten the cross shaft to the plow. Mark the cross shaft to beam Fig. 9d, for a starting point.

A  $\frac{1}{8}$ " turn on the shaft will change the width of cut 1". To increase width of cut rotate the top of the shaft forward, Fig. 10. To decrease cut, rotate the top of the shaft backward. Tighten the U bolts evenly and snugly. Under no circumstances should the cross shaft be moved on the plow horizontally.

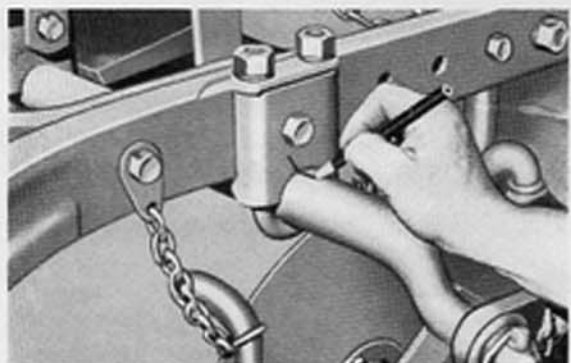


Fig. 9D



Fig. 10

**Cause (B):** One plow bottom not plowing on the same level as the other.

**Correction:** Level the plow with the leveling crank, Fig. 4, until each bottom is plowing on the same level.

Occasionally it may be necessary to operate the plow with the wing of the plow shares slightly above the level of the plow rather than below. This usually aids penetration and lightens the draft.

**Cause (C):** Each rolling coulter not adjusted like the other or one set wider than the other.

**Correction:** Each rolling coulter must be adjusted until they are in the same relative position with the plow share.

Normal setting is from  $\frac{1}{2}$ " to  $\frac{3}{4}$ " toward the land, away from the plow share gunnel or landside. Fig. 11 shows the furrow wall when coulter is set too wide.

For loose ground and hard scouring soils, it may be necessary to set the coulters about 1" toward the land. This will help to maintain a clean cut furrow wall in loose soil and increases the pressure against the moldboard to help prevent the soil sticking to it.

**Cause (D):** The packed soil from the tractor wheel tracks plowed by one bottom and not the other. This results in one furrow slice not being pulverized as much as the other.

**Correction:** Soil packed by the tractor wheels is solid and with quick turning type bottoms, it is not pulverized as well as that soil untouched by tractor wheels.

Slow turning bottoms such as the "R" TYPE, are most adaptable to this condition because the furrow slices are not pulverized as much as when using quick turning type bottoms and therefore does not magnify the different soil conditions in the plowed surface.

**Cause (E):** Irregular tractor speeds.

**Correction:** Maintain constant forward speeds. One trip in low gear followed by a trip in second gear will show definite ridging, Fig. 11.

## Uneven Depth and Difficult Penetration

**Cause (A):** Rolling coulters set too low.

**Correction:** Normally the rolling coulter should not cut deeper than half the depth of plowing. If the coulter is set too low over the point of the share, it will lead the plow out of the ground and thereby result in insufficient penetration. When the coulter is set too high, ragged furrow wall will result because the plant roots will not be cut off.

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Fig. 11

**Cause (B):** Plow shares badly worn or incorrectly sharpened.

**Correction:** Resharpener and/or reshape the plow shares to conform as nearly as possible to the original (new) share. The dotted line, Fig. 3b, illustrates a worn share.

If there is insufficient stock in the share to resharpen, a new share must be purchased.

**Cause (C):** Plow bottoms not level.

**Correction:** If the wing of the plow share is permitted to seek a level lower than the level of the plow, less penetration is available and the plow will raise out of the ground.

Level the plow bottoms with the leveling crank, Fig. 4.

**Cause (D):** Wide plow bottoms which have less tendency to penetrate than narrow bottoms.

**Correction:** Plow bottoms may be compared to a chisel. The wider the bottom, the less chance it has to penetrate the ground.

Narrow width bottoms must be used if penetration is a major problem, such as encountered in stony, hard, dry soils.

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

## Soil Sticking to the Plow Bottoms Or Not Scouring

**Cause (A):** Paint on the moldboard or share.

**Correction:** All paint must be removed from soil contact surfaces. This may be done with any commercial paint remover or a solution of common lye and water.

Caution must be taken to prevent the remover solutions from contacting either the clothing or the body.

**Cause (B):** Moldboard and share rusty.

**Correction:** Most of the rusty conditions are the result of improper care during storage of the plow. A good rust-preventive should be applied after the surface is cleaned thoroughly and dried.

Rust may be removed by buffing the rusty area or by rubbing the area with a soft brick and oil.

If the rusty condition is not too bad, it may be improved by plowing a short time in a dry soil so that the rust may be polished off.

**Cause (C):** Rolling coulters incorrectly set.

**Correction:** Increasing the width between the rolling coulters and the landside tends to increase the soil pressure against the moldboard. This increased pressure helps to keep the soil moving and sliding along the moldboard surface without sticking.

Never permit the coulter to set inside the landside.

**Cause (D):** Incorrect type bottoms being used for hard scouring soils.

**Correction:** Slat type bottoms, Fig. 6c, are designed for extremely hard scouring conditions and should be used instead of the other types.

The "S" type stubble bottom, Fig. 6a, is also provided for difficult scouring conditions.

Attention is invited to the fact that in some areas, such as alkaline soils, the moldboard will corrode, or sometimes is etched, if allowed to stand without being properly cleaned. This may be detected by the appearance of "soft spots." However, these are not soft spots in the moldboard, but spots where the polish has been destroyed by soil action. Also, in these same areas, particularly during spring plowing, it may be advisable to plow shallow to keep away from the "plow sole" or "hard-pan," Fig. 11.

## Plow not Covering Trash or Stubble

**Cause (A):** Rolling coulter and jointer incorrectly set.

**Correction:** Coulter should be set as close to the landside as possible to permit a clean-cut furrow wall, Fig. 4.

Set the jointer so that a small amount of stubble turf is turned over and thrown into the bottom of the furrow.

Set the coulter low enough to cut all trash and roots.

**Cause (B):** Plow not level.

**Correction:** If the plow is not level, the furrow slice cannot be turned properly nor pulverized sufficiently to cover trash, even if all types of trash covering attachments are used.

Adjust the plow with the leveling crank, Fig. 4, and make certain that the top link is set in the shortest position.

**Cause (C):** Excessive amount of trash requiring weed hooks.

**Correction:** Large tall weeds, sweet clover, alfalfa, etc. may be turned under and covered satisfactorily with the use of the weed hooks, Fig. 12.



Fig. 12

## PROCEDURE FOR SHARPENING PLOW SHARES

### Steel Shares

1. Heat the point of the share in a blacksmith forge fire, well banked to hold the heat, to a cherry red. Heat about one-third of the point, depending upon how badly it is worn, but not more than required.

With the use of a blacksmith hammer and an anvil, or other suitable flat surface, draw the

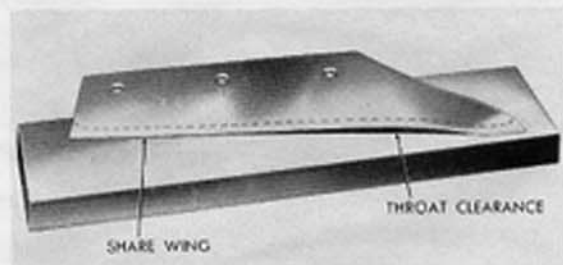


Fig. 13A

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 cherry red, in sections of about  $2\frac{1}{2}$ " along the edge and  $1\frac{1}{2}$ " back from the edge, and draw the share to the original shape.

The metal should be drawn until it has turned dark. Do not continue to draw the metal after it has darkened completely.

3. Set the throat clearance and ground suction, Fig. 13a and Fig. 13b, 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. 13b, should be about  $\frac{3}{16}$ " measured at the gunnel with the point and heel of the gunnel laying on the anvil.

The throat clearance should be at least  $\frac{1}{8}$ " measured from the cutting edge to the anvil, Fig. 13a.

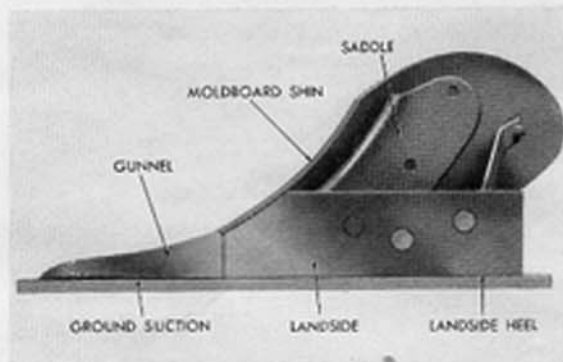


Fig. 13B

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.

4. To temper or harden a soft center steel share, heat it uniformly and quench in a brine solution. It is suggested that the share be moved in and out of the brine solution as the share is cooled.

Crucible shares or solid steel shares should not be quenched, but allowed to cool slowly.

### Chilled Cast Shares

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

## FIELD CHECKING TWO BOTTOM PLOWS

1. Select a level surface, about 25 sq. ft., sufficient to check all points of the plow.

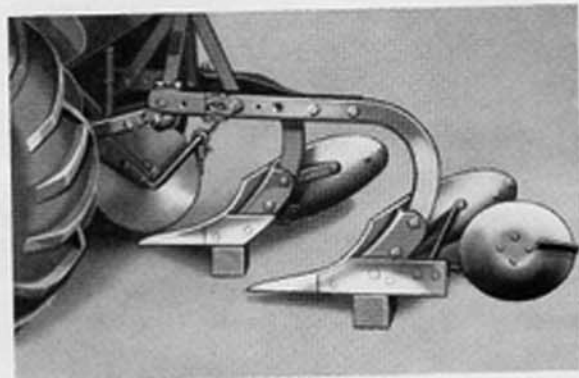


Fig. 14A

2. Block up under each plow bottom (use the same size block for each bottom) at the position of the lower beam bolt hole, with the landside resting on the block, see Fig. 14a. No other part of the plow bottom should touch the block.

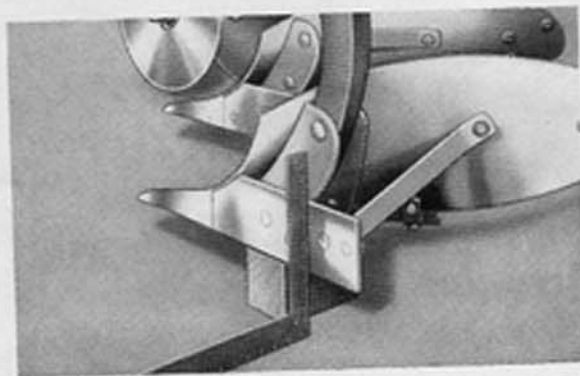


Fig. 14B

3. With the use of a carpenter's square, level the plow until the face of the rear bottom landside is perpendicular with the level surface, \*Fig. 14b.
4. Measure the distance from the centerline of the lower beam bolt hole to the level surface, \*Fig. 14c, subtract  $3\frac{1}{16}$ " and for reference purposes call this dimension "A."

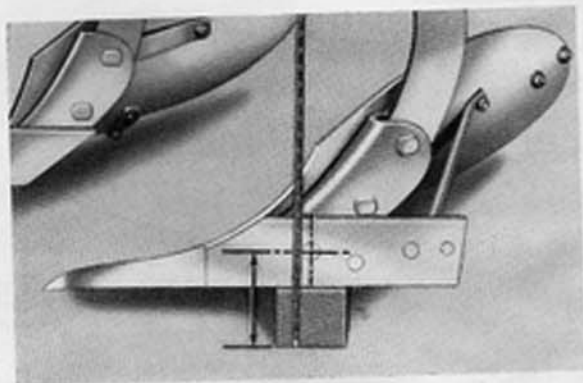


Fig. 14C

5. The accompanying chart shows the method of measuring the position of the share point, Fig. 15a, share wing, Fig. 15b and landside heel, Fig. 15c, by using the above dimension "A." These measurements are the same on both front and rear bottoms except for the landside dimension. It is not necessary to check the landside on the front bottom.

### CHART FOR CHECKING PLOW BOTTOMS

TYPE AND SIZE BOTTOM	SHARE POINTS		SHARE WING		LANDSIDE HEEL	
	FROM	TO	FROM	TO	FROM	TO
14" "A"	A - $\frac{3}{16}$ "	A + $\frac{3}{16}$ "	A - $\frac{1}{8}$ "	A + $\frac{1}{8}$ "	A + $\frac{7}{8}$ "	A + $1\frac{1}{8}$ "
12" "B"	A - $\frac{1}{8}$ "	A + $\frac{1}{8}$ "	A + $\frac{1}{8}$ "	A + $\frac{1}{2}$ "	A + $\frac{7}{8}$ "	A + $1\frac{1}{8}$ "
10" "H"	A - $\frac{1}{8}$ "	A + $\frac{1}{8}$ "	A + $\frac{13}{16}$ "	A + $\frac{5}{8}$ "	A + $\frac{7}{8}$ "	A + $1\frac{1}{8}$ "
14" "R"	A + $\frac{25}{32}$ "	A + $1\frac{1}{32}$ "	A + $\frac{7}{16}$ "	A + $\frac{13}{16}$ "	A + $1\frac{13}{32}$ "	A + $\frac{21}{32}$ "
14" "S"	A + $\frac{25}{32}$ "	A + $1\frac{1}{32}$ "	A + $\frac{15}{32}$ "	A + $\frac{13}{16}$ "	A + $1\frac{3}{8}$ "	A + $1\frac{5}{8}$ "

It will not be necessary to check the SLAT "E" TYPE and CHILLED "I" TYPE Bottoms in the field. In case of doubtful opinion regarding alignment, request information from Service Department, Harry Ferguson, Inc., for the proper procedure in handling.



# THE MOLDBOARD PLOW

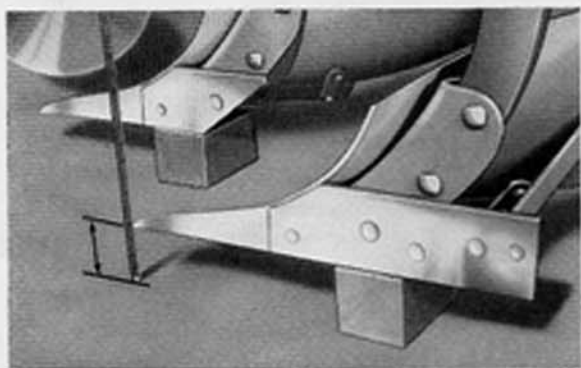


Fig. 15A

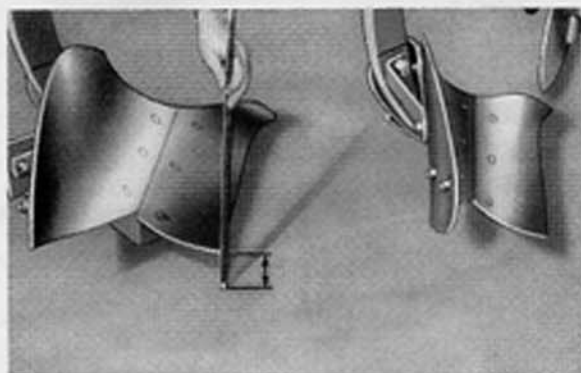


Fig. 15B

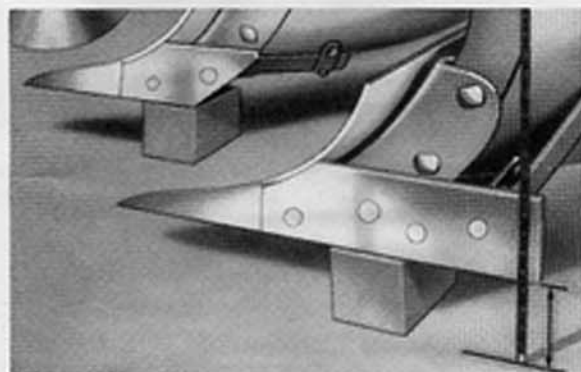


Fig. 15C

6. Check the width of cut by placing a carpenter's square along the landside of the front bottom, Fig. 15d, and measure to the outside of the rear bottom landside. This dimension should be 14" plus or minus  $\frac{1}{4}$ " for 14" plows and 12" plus or minus  $\frac{1}{4}$ " for 12" plows.

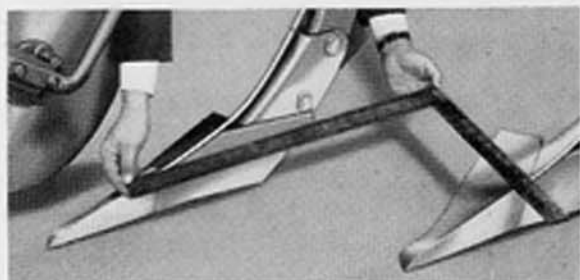


Fig. 15D

7. Check for bent saddles or beams by measuring the distance between the share-moldboard joint lines, at the landside of the shares, Fig. 15e, and at the wing of the shares, Fig. 15f. These dimensions should be the same with a tolerance of plus or minus  $\frac{1}{4}$ ".

*\*NOTE:* For illustrating purposes only the furrow wheel has been removed from the plow.

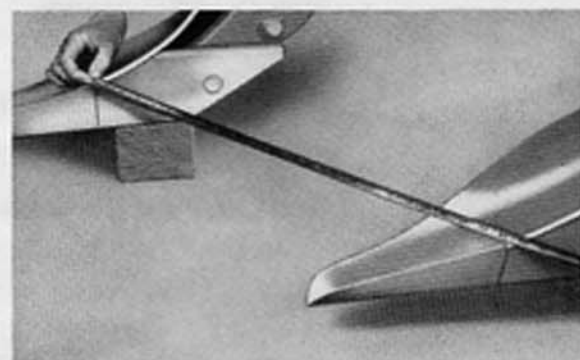


Fig. 15E

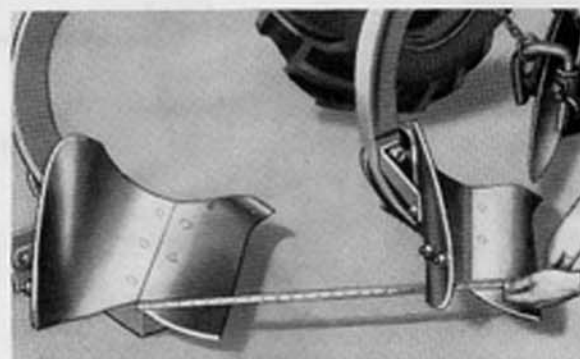


Fig. 15F

# THE MOLDBOARD PLOW

## FIELD CHECKING SINGLE BOTTOM PLOWS

1. Place plow on a flat, level surface.
2. Block up under landside with the block immediately under the lower beam bolt that goes through the landside, similar to that shown in Fig. 14a.
3. Measure the distance from the surface to the centerline of the lower beam bolt, subtract  $3\frac{1}{16}$ " and for reference purposes call this dimension "A."
4. Square up the face of the landside so that it is at right angles with the flat surface, as shown in Fig. 14b.
5. Adjust the front of the plow beam until the distance from the centerline of the bolt holes, Fig. 16, to the flat surface is equal to the measurement from the surface to the bolt hole "X" plus 22".
6. Distance from flat surface to point of share, Fig. 15a, must be from "A" minus  $\frac{3}{16}$ " to "A" plus  $\frac{3}{16}$ ".
7. Distance from flat surface to wing of share, Fig. 15b, must be from "A" minus  $1\frac{9}{16}$ " to "A" minus  $\frac{1}{4}$ ".
8. Distance from flat surface to landside of base, Fig. 15c, must be from "A" plus  $\frac{7}{8}$ " to "A" plus  $1\frac{1}{8}$ ".
9. Distance measured laterally from face of landside to wing tip of share must equal 16" or the width of cut.

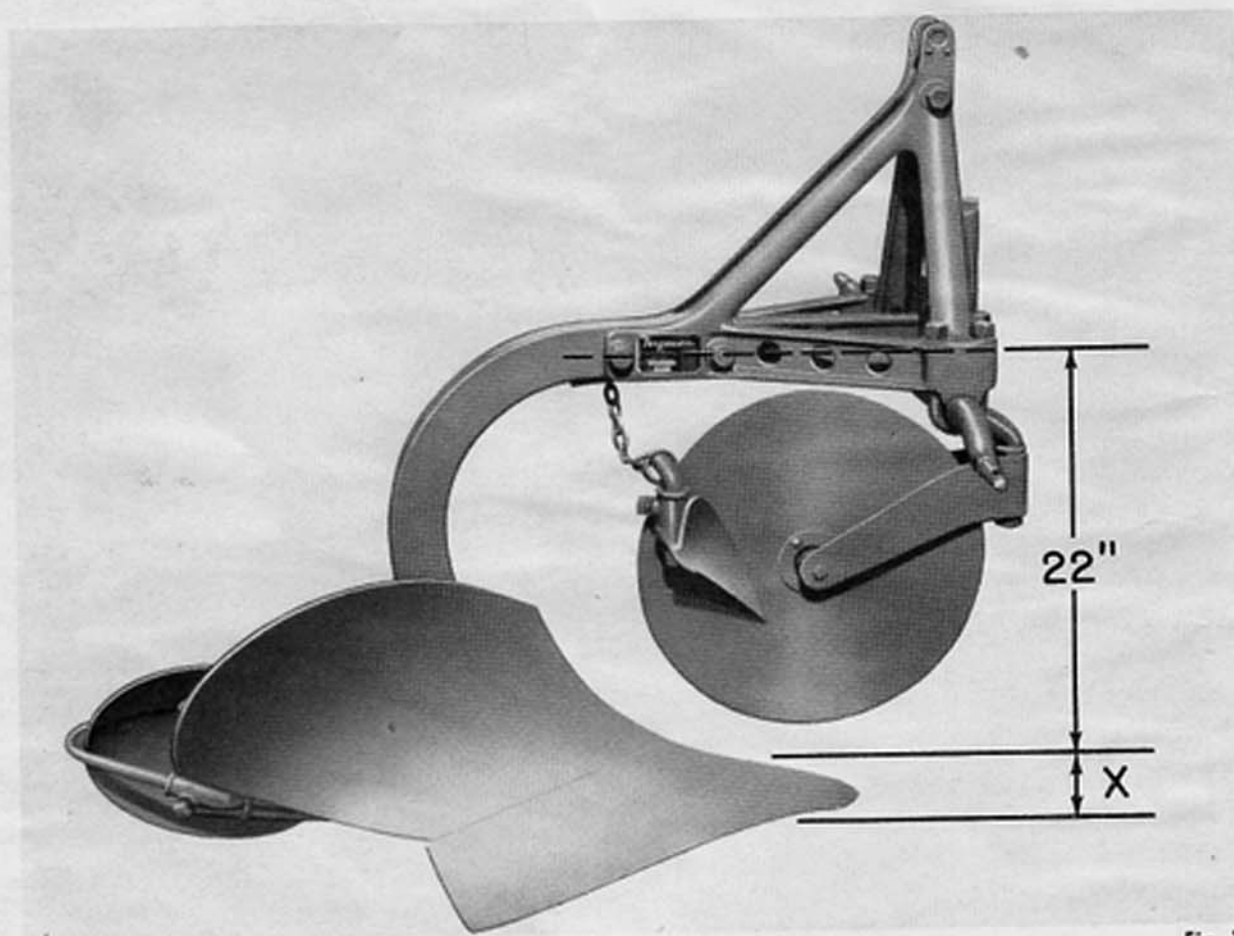


Fig. 16

# THE MOLDBOARD PLOW

## Installation and Use of Shim AO 9570

The AO-9570 Shim, Fig. 17b, is installed between the moldboard and saddles on the A and B bottoms only when the  $\frac{5}{16}$ " thick service shares replace the original  $\frac{1}{4}$ " thick shares. The moldboards are  $\frac{1}{4}$ " thick and when the  $\frac{5}{16}$ " shim is installed, the surface of the moldboard is raised to the same plane as the share. Present production plows are provided with  $\frac{5}{16}$ " shares and the shim is installed at the factory.

The 14S-AO-9570 Shim, Fig. 17a, is installed at factory, except for the early model 14S bottoms which were produced without a shim inasmuch as the saddle was offset.

The 14R-AO-9570 Shim is similar to the 14S-AO-9570 Shims and is also assembled to the plow at the factory.

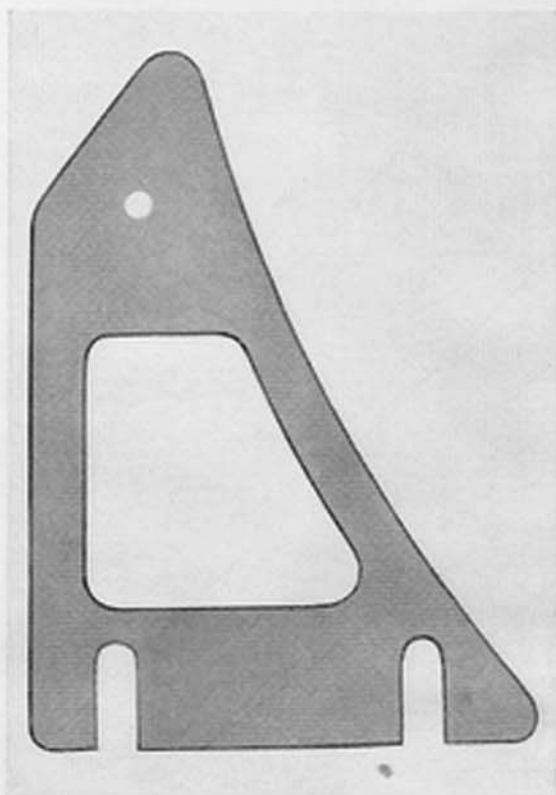


Fig. 17A

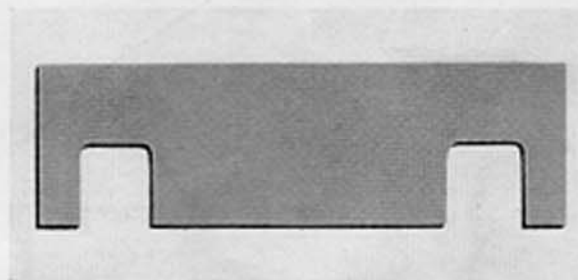


Fig. 17B

## PLOW CAPACITY CHART (Acres per 10 hour day)

Width of Cut	1500 RPM		2200 RPM	
	Low Gear 2 $\frac{5}{8}$ m.p.h.	2nd Gear 3 $\frac{1}{2}$ m.p.h.	Low Gear 4 m.p.h.	2nd Gear 5 $\frac{1}{4}$ m.p.h.
16" (One Bottom)	3.5	4.6	5.3	6.8
20" (Two-10" Bottoms)	4.4	5.9	6.6	8.5
24" (Two-12" Bottoms)	5.3	7.0	8.0	10.2
28" (Two-14" Bottoms)	6.1	8.2	9.3	11.9

