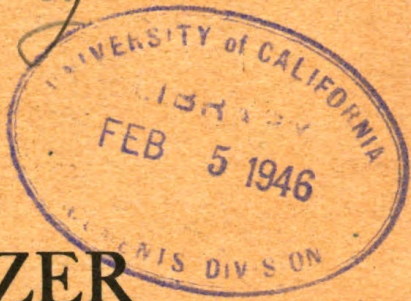


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1943

# TM 5-1224

WAR DEPARTMENT TECHNICAL MANUAL

*U.S. Dept. of Army*



## ANGLEDOZER

## TRACTOR-MOUNTING

## CABLE-OPERATED

## LE TOURNEAU, MODEL WCK-7

NOTE: This is a reprint of TM 5-1224. No distribution will be made to personnel possessing original publication.

WAR DEPARTMENT • 3 JULY 1943



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*United States Government Printing Office  
Washington : 1945*

WAR DEPARTMENT,  
WASHINGTON 25, D. C., 3 July 1943.

TM 5-1224, Angledozer, Tractor-Mounting, Cable-Operated, Le  
Tourneau, Model WCK-7, is published for the information and guid-  
ance of all concerned.

[A. G. 300.7 (25 Mar 43).]

BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,  
*Chief of Staff.*

OFFICIAL:

J. A. ULIO,  
*Major General,  
The Adjutant General.*

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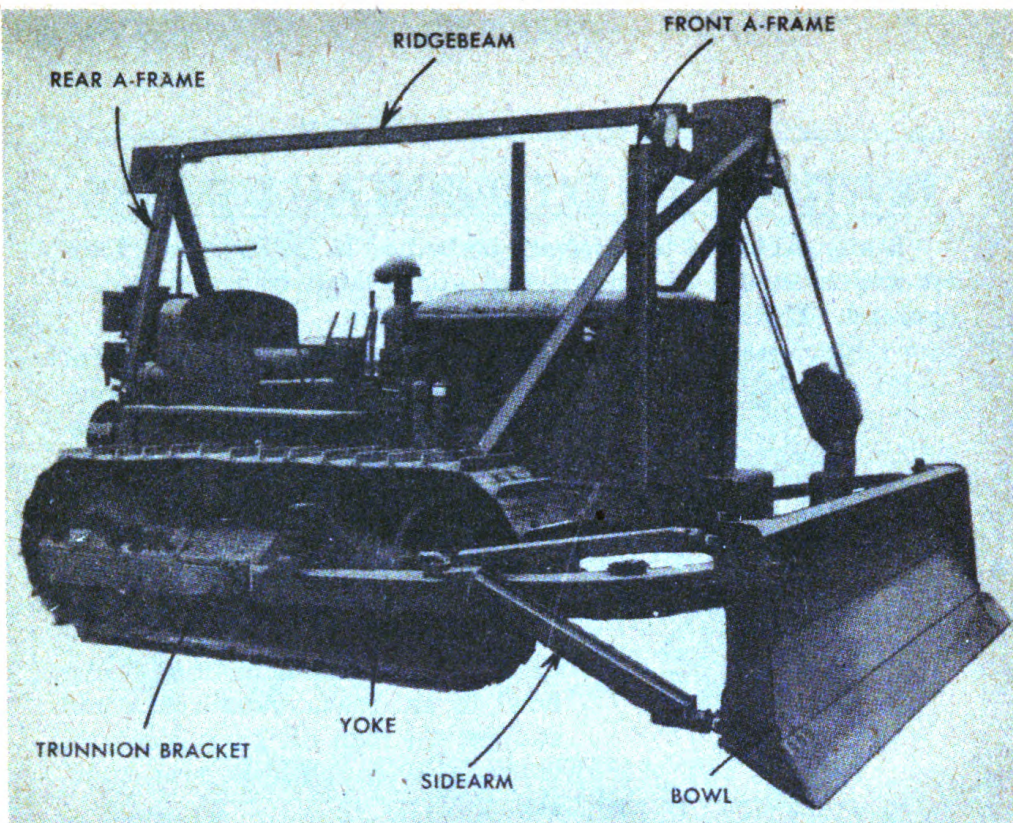
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## THE LETOURNEAU MODEL WCK7 ANGLEDZOZER

LeTourneau Angledozers are used principally for moving earth, rock, etc., short distances; for pioneering roads through hilly, mountainous country; for clearing or removing stumps, trees and brush; for logging, stripping, land leveling, digging ditches, snow and ice removal, etc.

Placed in the hands of the Army, they make excellent tools for both combat and non-combat troops.

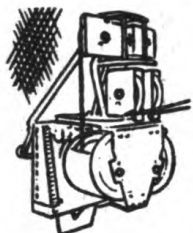
The LeTourneau Model WCK7 Angledozer consists mainly of the steel blade or "bowl" across the front of the tractor. Other principal parts of the 'Dozer are the yoke and sidearms, which support the bowl in front of the tractor; the trunnion brackets, on which the rear of the yoke pivots; and the front and rear "A" frame and ridge beam which support the sheaves over which the cable or wire rope from the Power Control Unit travels to raise and lower the bowl.

By operating the Power Control Unit control lever, the 'Dozer bowl is raised and lowered as the tractor moves forward, thereby enabling the operator to perform the work required of the 'Dozer.

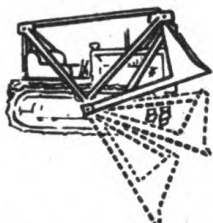
The Angledozer bowl can be adjusted into the angled and tilted positions for special operations. Details of operation and maintenance procedures will be found on the pages which follow.

## FEATURES OF LETOURNEAU DOZERS

Many exclusive features are embodied in LeTourneau 'Dozers which should be known and appreciated by every 'dozer operator. The most important features are:



1. Instant response and close control of blade, because of the powerful, sure-acting cable operation of the LeTourneau Power Control Unit. With cable control, operation is always uniform in heat or cold. A minimum of time is lost because cable control is more efficient.



2. Extreme high lift and low drop of the bowl. The low drop enables the bowl to go down under rocks and stumps; the high lift gives plenty of leverage when pushing over trees, etc.



3. The digging angle of the 'Dozer blade gives the bowl a natural digging suction, making for quick, plow-like penetration into the ground.



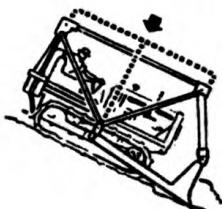
4. The correctly curved 'Dozer bowl gives the dirt a rolling action ahead of the bowl, thus decreasing the dead load weight on the tractor unit.



5. Maximum strength at minimum weight, as a result of the sturdy electrically arc welded, alloy steel, boxbeam construction.

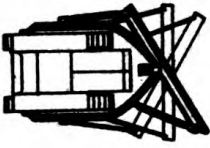


6. Rigidity—a feature that is built into LeTourneau 'Dozers through the use of correctly designed points of connection between sidearms, yoke, and bowl.

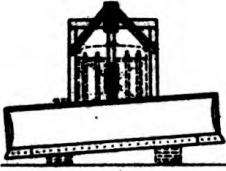


7. Balanced weight distribution, which helps to keep the tractor tracks "geared to the ground" to transmit more tractor horsepower at the tips of the blade, and which eliminates excessive wear on tractor front idlers and rollers.





8. Angledozer bowls can be angled 30° to either side quickly and easily for sidecasting.



9. Angledozer bowls can be tilted to cause one corner of blade to dig several inches deeper than the other. This helps to penetrate in hard, frozen ground, and assists in digging ditches, making side hill cuts, etc.



10. The design and workmanship of LeTourneau 'Dozers has been job-proved by the thousands of LeTourneau 'Dozers operating on tough jobs all over the world.

## OPERATING INSTRUCTIONS

Probably no piece of earthmoving equipment reflects the skill of the operator more than does the LeTourneau 'Dozer. Also, few machines are more dependent upon the ability of the operator than the LeTourneau 'Dozer.

Pioneering in hilly or mountainous country often requires the courage and confidence which comes only through experience and through an ability to operate a 'Dozer skillfully and efficiently. Without skillful operation the efficiency of the 'Dozer is retarded.

It is hoped that every operator of a LeTourneau 'Dozer will recognize the importance of his services, and will operate the 'Dozer to the best of his ability at all times. Skill in operation comes rapidly to those who are eager to learn; indifference and poor operation go hand in hand.

The operating instructions in this book are brief, and are intended only to familiarize the operator with the accepted methods of operation and the procedure to be used in doing the more common types of 'Dozer work, as practiced by skilled operators with years of experience.

These instructions should help the new operator in becoming more efficient at his work.

It should be kept in mind, however, that an operator cannot become skilled by reading a book, but can attain skill only

through actual operating experience. We herein supply only the fundamentals of 'Dozer operation. Whether an operator becomes skilled after reading this book depends largely upon himself.

## THE CONTROLS

Each LeTourneau 'Dozer is controlled by means of a LeTourneau Power Control Unit. Either front or rear mounted Power Control Units may be used, in models with either single, double, or four cable drums.

The 'Dozer requires the use of but one cable drum, and when Power Control Units having more than one cable drum are used, the spare drums may be either used to operate other equipment, such as a Rooter, or may be left idle.

The 'Dozer bowl is connected with the Power Control Unit by means of the control cable or wire rope. By engaging the Power Control Unit clutch, the 'Dozer bowl will be raised. By releasing the Power Control Unit brake, the 'Dozer bowl will be lowered. The bowl is held in position when the Power Control Unit control lever is in the neutral position.

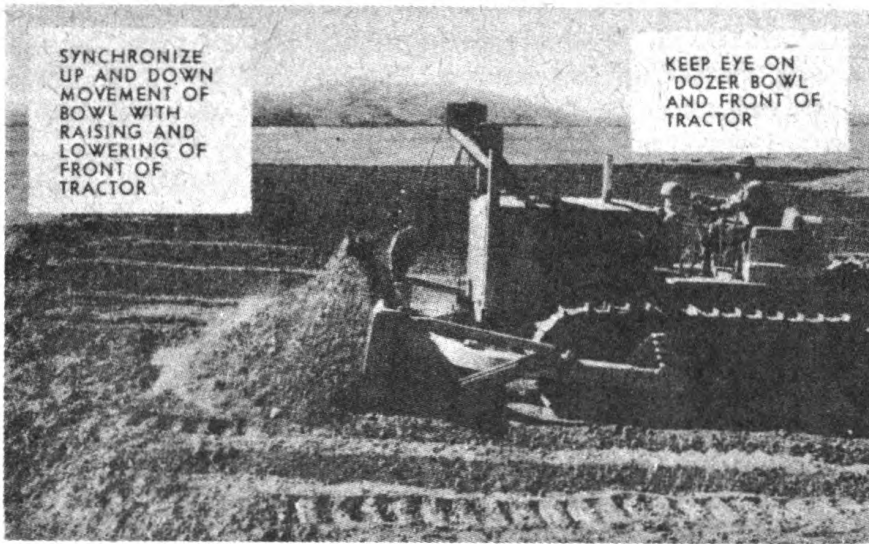
For instructions covering the movement of the Power Control Unit control lever to engage the clutch and release the brake, refer to the Power Control Unit instruction book.

## INSTRUCTIONS FOR THE BEGINNER

When the new operator of the LeTourneau 'Dozer gets on a tractor to begin operating, he should raise and lower the 'Dozer bowl until he feels sure of what is going to happen when he moves the Power Control Unit control lever. This is especially true of those who have had no previous experience with cable controlled 'Dozers, Power Control Units, etc.

It should be remembered, however, that a 'Dozer bowl loaded with dirt will act differently than an empty bowl.

One of the most important things to remember when learning to operate a 'Dozer is to raise or lower the bowl only a small amount at a time—approximately  $\frac{1}{4}$ " to 1". Otherwise, if the bowl is raised and lowered 2 or 3 inches at a time while operating, it will cause the blade to cut an uneven surface over which the tractor must travel, which will result in the tractor's "nosing" up and down. This in turn would tend to cause the blade to cut still more unevenly, thereby increasing the tendency of the tractor to nose up and down, etc.



The new operator will soon get in the habit of watching for or anticipating the up and down movement of the front of the tractor when operating over uneven ground. When the front of the tractor starts to rise or "nose up", the operator should move the control lever in the direction that will release the Power Control Unit brake, allowing the blade to lower. When the front of the tractor starts to "nose down", the Power Control Unit Clutch should be engaged to raise the blade, only far enough to compensate for the lowering of the front of the tractor. This is necessary to maintain a smooth cut.

After operating a while, the new operator will be able to automatically raise and lower the 'Dozer bowl as the front of the tractor rises up and down without giving it a great deal of thought or special attention.

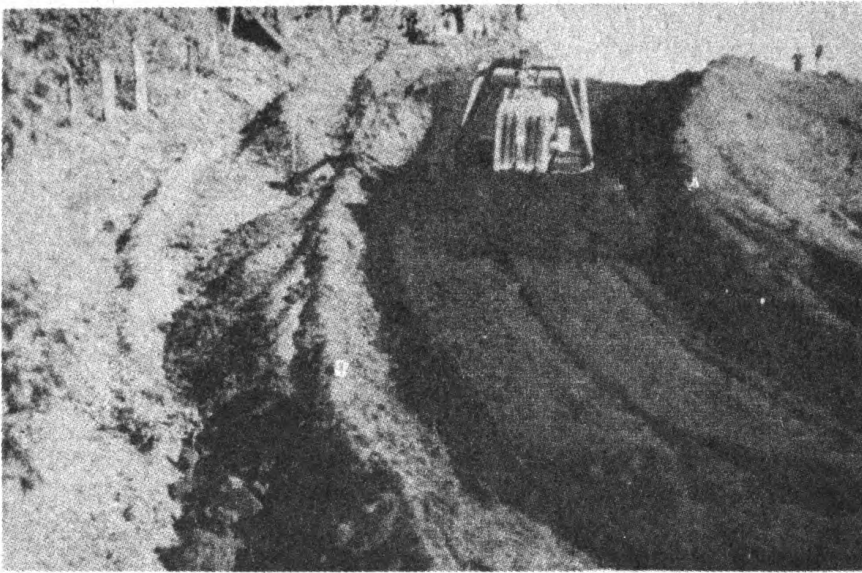
One important thing to remember when operating is to keep the slack out of the cable at all times, in order to have immediate control over the 'Dozer bowl. Also, it will be found that the cut or roadway can be kept level more easily if the Dozer bowl is kept approximately  $\frac{1}{2}$  to  $\frac{3}{4}$  full of dirt while traveling forward.

When starting to operate over uneven ground, it is often necessary to lower the bowl and release one of the tractor steering clutches at the same time while moving forward, traveling approximately a half turn or through an arc of 90 degrees, thereby smoothing off the dirt. Repeat this action to keep "fanning" the dirt out smooth or level as the work progresses.

Nearly every job presents new problems to 'Dozer operators, but once the inexperienced operator gets the "feel" of the machine and decides to concentrate on his work, he will find that he can overcome most any operating problem and will find it easy, enjoyable, and profitable work.

## BULLDOZING

LeTourneau Angledozer may be used successfully for "bulldozing" or, in other words, for drifting dirt straight ahead in front of the bowl. When used for "bulldozing", the bowl should be positioned straight across the front of the tractor.



The material should be drifted downhill wherever possible in order to increase production. When drifting the material, a ridge of dirt will be formed along either side of the 'Dozer bowl, by dirt spilling out around the ends of the bowl, thereby causing the unit to work within a trench. Care should be exercised to maintain this trench, in order to get the largest possible loads. Working downhill within such a trench assures loads of maximum size, and sometimes makes it possible to operate the tractor in second or third gear, depending upon the grade.

## MAKING SIDE HILL CUTS

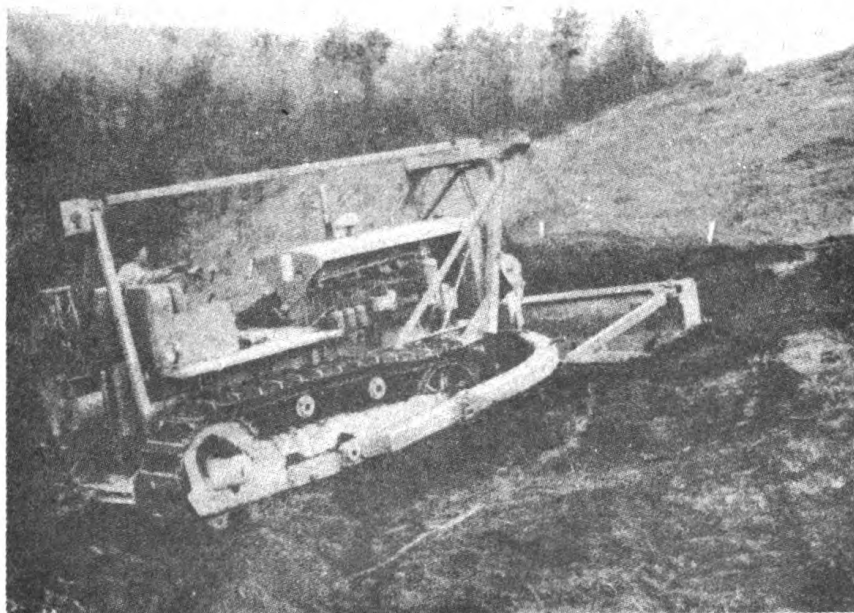
LeTourneau Angledozer are used quite extensively for mak-

ing side-hill cuts. This can be done with the bowls in either the straight or angled positions. However, with the bowls in the angled position, they are particularly adapted to this type of work.

To start a side hill cut with a LeTourneau Dozer, guide stakes should first be set at the top of the slopes on the cuts, and at the toe of the fills.

The tractor should then be brought to the highest point on the back slope to start the cut. Operation is started with the tractor at right angles to the line of slope stakes, with the rear of the tractor pointing down hill. The bowl is then dropped into the ground and the tractor is swung around. This is done by engaging the tractor flywheel clutch ("master clutch"), disengaging the right steering clutch, and applying the right steering brake, causing the machine to pivot. The unit should be brought close enough to the line of slope stakes so that when the tractor pivots, the point of the bowl will cut right up to the line. For ease of operation, the bowl should be angled with the forward point cutting next to the slope stakes. The bowl should also be

PIVOT TRACTOR AS  
BLADE APPROACHES  
ROW OF SLOPE STAKES



tilted, with the point cutting against the stakes adjusted lower than the opposite side.)

Swing the tractor around until it is almost parallel with the slope stakes, at the same time lifting the 'Dozer bowl so that the dirt will roll no further down the slope than the width of the roadway, and not be wasted down the hillside.

It will be noted that the point of the bowl cutting against the line of stakes swings in a long arc, while the other end of the bowl has very little travel. The point next to the slope stakes is half buried in dirt, while the other is exposed and not moving any material.

This procedure should be repeated until a level shelf is constructed upon which the tractor can work. The unit can then work parallel to the slope stakes, cutting a level shelf as it proceeds. With the bowl angled, it will have a tendency to side-cast the material as the tractor travels forward without requiring any great amount of help from pivoting the tractor. With the bowl not angled, however, it is necessary to do considerable more pivoting of the tractor to side-cast the dirt than when in the angled position.

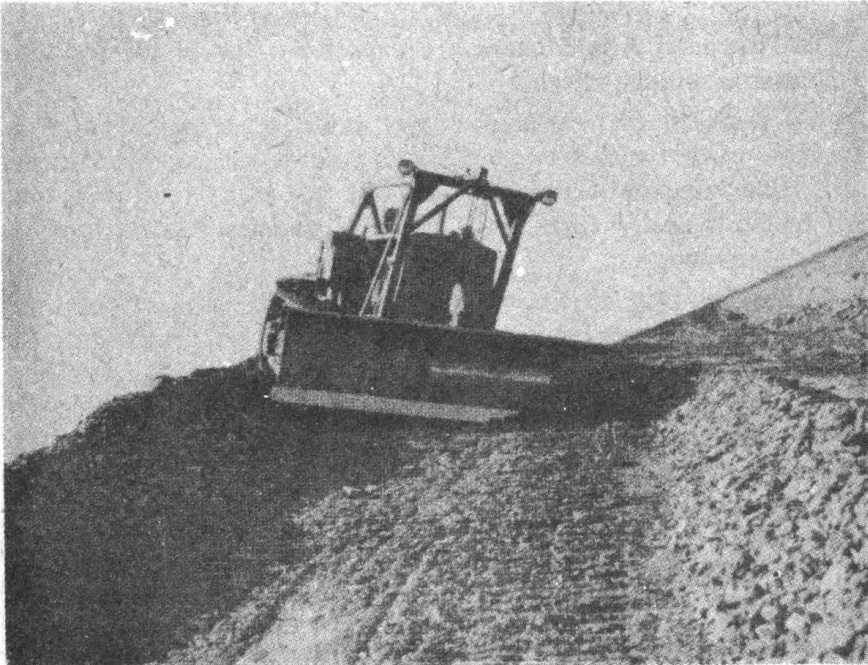
In making the cut, the side next to the back slope should always be kept a little lower than the outside, in order to cause



the tractor to lean slightly toward the bank and thereby to stay on solid footing. If the machine is operated when leaning away from the bank, the operator will have trouble in maintaining the back slope. Also, when the bench slopes away from the bank, the tendency of the tractor to "ride" down over the edge of the loose fill material makes it difficult to place the material where it is needed.

In addition to keeping the cut low next to the bank, a small ridge of dirt should be piled up and maintained along the downhill side or outside of the cut or fill. This ridge of dirt is helpful in keeping the work from sloping to the outside, and should be built up as soon as possible after starting the cut.

If the cut once starts sloping down hill, or to the outside, the material in the Dozer bowl will have a tendency to crowd to the outside, loading that corner of the bowl and continually pulling the tractor over to one side, making it difficult to keep the tractor traveling in a straight line. In instances of this kind, the ridge of material formed along the outside edge of the cut may be used to level up the tractor and get the cut sloping slightly toward the bank again by backing one of the tractor tracks up onto the ridge and then traveling forward with the corner of the bowl nearest the bank cutting in deeper than the



outside. Several passes may have to be taken in this manner to properly level up the cut.

The ridge of dirt on the outside should also be continuously maintained for the purpose of using the material later to fill up any low spots and bring the roadway to the desired grade.

The required back-slopes usually vary in steepness from  $\frac{1}{2}$ -to-1 to 2-to-1. When making the cut, try to maintain the correct back slope as the work progresses. The slope is usually cut in a series of steps for a height which is equal to the width of the bowl, and then the steps are trimmed off by running the tractor along the slope with the Dozer bowl lowered only enough to cut off the steps.

Dozers are often used to open up side-hill cuts for Carryall Scrapers. In instances of this kind the cut is usually made with the Dozer until the shelf which has been cut is wide enough to run a Carryall Scraper on. Then the Carryall Scrapers proceed with the cut.

In the above operation, the Dozer operator should try to make the shelf slope toward the bank at an angle which will cause the Scrapers to maintain the proper slope, if possible, as they proceed with the cut.

### DIGGING V-SHAPED DITCHES

LeTourneau Angledozers are especially suited for building V shaped drainage ditches.

To perform this operation, first build up a small ridge or windrow of dirt along one side of the proposed ditch, at either end. The windrow should be at least 10 or 15 feet long, and can be built easily with the Dozer by positioning the bowl in the angled position.

After building up the windrow of dirt, the side of the bowl which has been angled to the front should be tilted into the extreme digging position by means of the blade tilt adjustment. Then run one of the tractor tracks up onto the windrow of dirt so that the front point of the blade digs into the ground. By moving forward, the front corner of the blade will continue to dig low and a semi-V shaped ditch will be dug. By traveling back the opposite side of the ditch the Dozer will widen the ditch and make both sides taper down at approximately the same angle.

Another pass along both sides may be necessary in order to dig the ditch to the desired depth and to clean out loose dirt that has fallen around the ends of the bowl.



## FINISHING

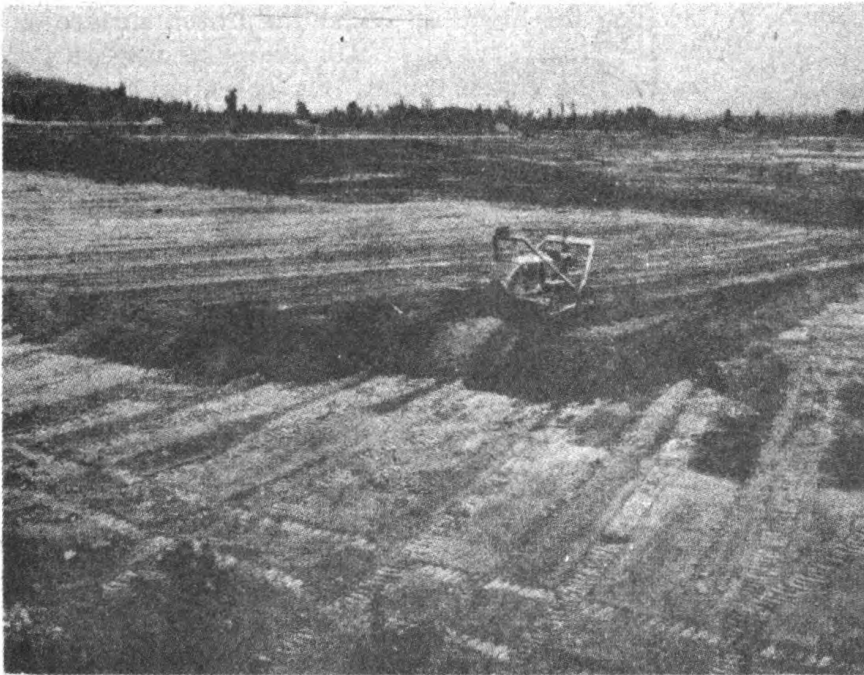
Most operators find that it requires somewhat more experience to "finish" efficiently with a 'Dozer than it does to do most other types of 'Dozer work. However, there are many jobs upon which it is found advisable to finish with a 'Dozer, and in instances of this kind any experienced operator can, with a little practice, handle the job without a great deal of difficulty.

When starting to finish, keep the tractor tracks level on the first cut. By doing this the 'Dozer blade will be started level with the finished grade.

Before lowering the bowl, place the tractor in motion. Then lower the bowl gradually and feed it into the ground. Make sure, however, that the tractor tracks are level as the blade enters the ground. If the bowl should be dropped suddenly, the blade will have a tendency to gouge.

Keep the raising and lowering of the 'Dozer bowl synchronized with the up and down movement of the front of the tractor as outlined in previous instructions, in order to keep the work level.

It is usually found that if the tractor is operated in the fastest gear possible without pulling the motor down, and if it is kept



moving at a steady rate of speed, the finished work will be smoother, and the rate of progress will, of course, be faster.

Always keep the bowl at least half full of dirt. This will cause the blade to cut the high spots easier and to fill in the low spots with the extra dirt.

After having finished a part of a job, use the finished work as a guide for the rest of the job by allowing approximately  $\frac{1}{4}$  of the blade to overlap the finished work and guide the depth of the cut and spread.

Small irregularities in a finished surface are sometimes smoothed out by dragging the bowl backward over the fill.

## FROZEN GROUND

When operating in frozen ground, it is often difficult to break through the top, frozen surface. To do this, it is usually necessary to tilt the bowl to cause one corner to dig deeper than the opposite corner by means of the blade tilt adjustment. (Refer to adjustment instructions.) By driving the tractor forward and backward with the corner of the blade in the ground, it will wear down through the frozen top soil.

After once having broken through the top soil, it is a fairly simple matter to break the surrounding frozen soil out in large chunks, by bringing the blade up under the frozen surface and hoisting with the Dozer bowl. It will often be necessary to disengage one steering clutch during this operation to prevent stalling the tractor engine.

The above operation can also be done without tilting the bowl, by running one of the tractor tracks up onto a log or ridge of dirt, thereby causing one corner of the blade to dig deeper than the opposite corner.

## CLEARING

LeTourneau Dozers are quite often used to clear land of trees, stumps, brush, mesquite, etc.

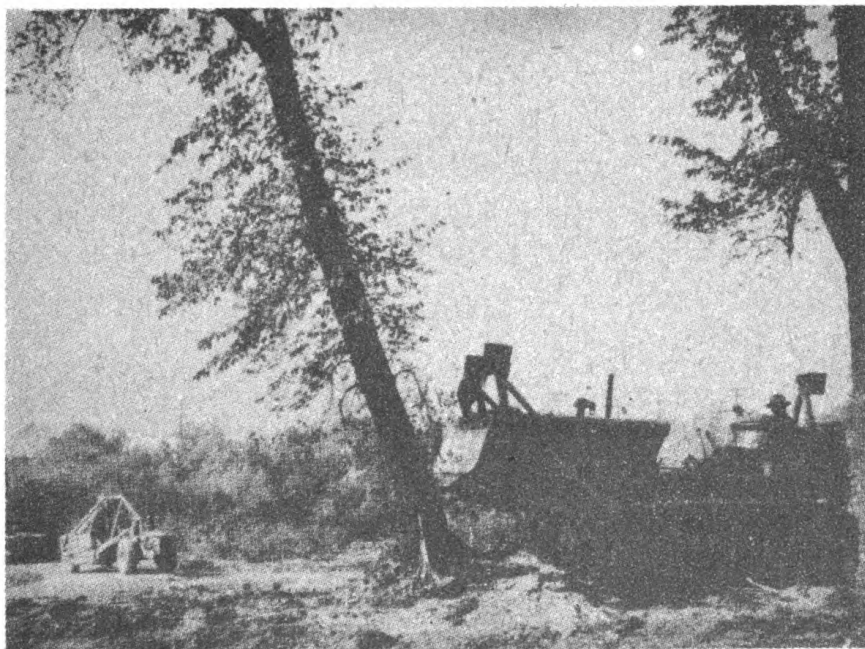
Of all clearing operations, that of pushing over trees is the most difficult. However, by following the instructions below, practically any experienced operator can push over surprisingly large trees with a Dozer mounted on one of the larger size track type tractors. This operation should be done with the bowl in the straight, bulldozing position.

To remove a large tree, first cut all side roots by encircling the tree trunk with the blade. After the larger side roots have been cut, drive the tractor up to the tree, with the 'Dozer bowl raised to the maximum height. If the ground around the tree slopes, approach the tree from the highest side in order to take advantage of the greatest possible leverage.

In an attempt to push over the tree, do not charge or run up against the trunk of the tree at full speed, but slowly advance the tractor and place the 'Dozer bowl against the tree trunk, as high as possible, and then try to spring the tree by engaging the tractor flywheel clutch with the engine running at full throttle, thereby utilizing the full power of the tractor.

The operator should be alert to avoid being hit by falling limbs when starting to push.

If the tree does not give or start to fall, the tractor should be backed away and more of the roots cut. If necessary, push additional earth or logs in front of the tree to serve as a ramp and provide increased leverage for the 'Dozer. In this manner, both the weight of the tractor and horsepower are used to full advantage. Under no circumstances should the tractor be operated back and forth with the hope of making the tree give, since this practice is likely to result in damage to the tractor flywheel clutch.

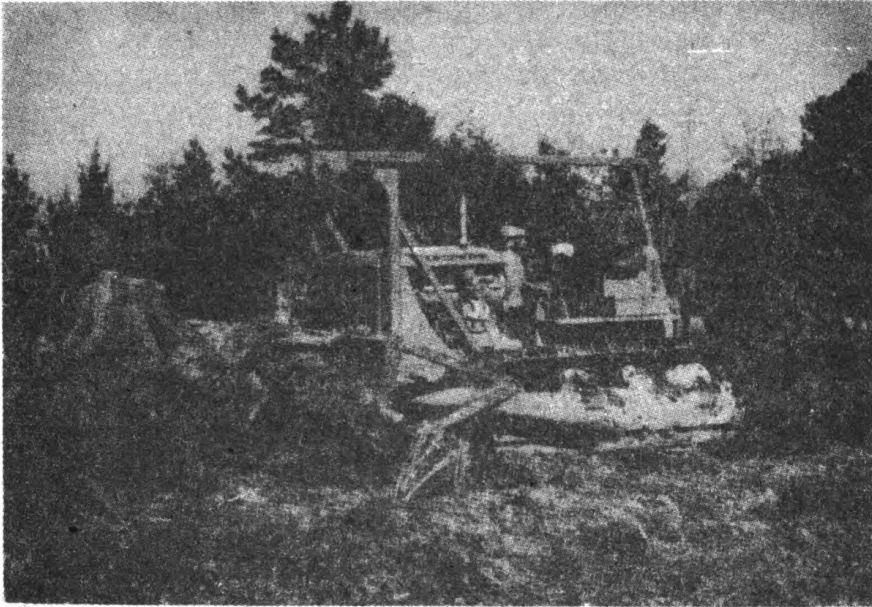


Push the tree until it starts to fall or lean. Then immediately back away and drop the bowl below the roots. (If the tractor is not backed away at this point, the tree may fall on over, allowing the roots to come up under the 'Dozer bowl and tractor, endangering the radiator and pan, and possibly resulting in the equipment getting "hung up" on the mass, requiring considerable trouble in trying to free it.)

After having dropped the 'Dozer bowl below the tree roots, again apply the power of the tractor against the tree with one steering clutch "held out" or disengaged. Leaving one steering clutch disengaged will keep the Power Control Unit in operation while the tractor force is applied against the tree. The upward pressure of the 'Dozer bowl is then applied upon the roots. As the tree continues to fall, the steering clutch should be engaged and the full power of the tractor applied to both tracks. This will bring the tree out with most of the roots.



When clearing, it should be remembered that it is much easier to take out the entire tree with a 'Dozer than to cut it down and remove the stump later. The reason for this is that the additional leverage gained by height and by weight of the tree-tops provides a contributing force that assists in bringing the tree down.



Stumps, however, can be removed with LeTourneau 'Dozers without any great amount of difficulty, by employing somewhat the same procedure as is used when pushing over trees. However, since it is impossible to push high up on a stump as is done on trees, it is necessary to cut deep enough around the stump to get the 'Dozer blade below the roots, and to then move forward and hoist with the 'Dozer bowl at the same time, thereby bringing out the stump.

### REMOVING ROCKS AND BOULDERS

The procedure for digging out rocks and boulders is similar to that for removing stumps. However, it is difficult to establish a set of rules to be followed in removing rocks, since it seems that a slightly different procedure is required with each rock.

Usually, it is advisable to first dig around the rock with the 'Dozer blade and then to work one corner of the blade down under the rock. When the corner of the blade is caught firmly under the rock, disengage one steering clutch to keep the tractor engine from stalling, and engage the Power Control Unit clutch, thereby hoisting the 'Dozer bowl, and giving the rock a rolling action.

When moving rock on a side-cast job, such as widening out a cut, cutting roads up the sides of rocky mountains, etc., dig in

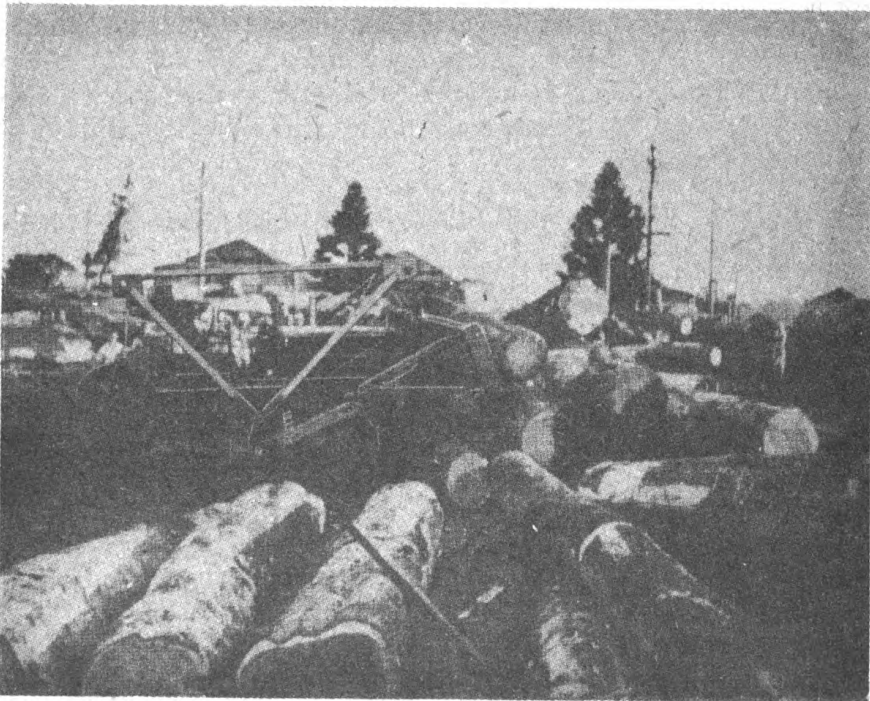
with the corner of the blade and then, while moving forward, give the bowl a three or four foot lift. Don't repeatedly let the corner of the blade dig in where the tractor keeps stalling. Instead, disengage the steering clutch opposite the corner of the blade which is against the rock, and raise and lower the blade into the rock, thereby causing it to dislodge itself.

## LOGGING

LeTourneau 'Dozers are quite often used around logging camps not only for constructing logging roads, clearing, etc., but also for "cold decking" or piling up logs. This can be easily and effectively accomplished by using the 'Dozer bowl to shove or roll the logs into the desired position, and by rolling logs up one over another into a stack by moving forward and at the same time giving the bowl a quick, high lift as a log is being rolled in front of the bowl, up against the stack.

The quick, high lift of LeTourneau cable controlled 'Dozers makes them particularly well adapted to this type of work.

'Dozers used in logging country are usually operated by front end Power Control Units, leaving the rear of the tractor free for mounting a logging winch.



## SNOW AND ICE REMOVAL

Although primarily designed as earthmoving tools, LeTourneau Angledozer are often used successfully in snow and ice removal. The Angledozer is normally most effective at this type of work when the bowl is in the angled position.

When removing deep snow, it is often necessary to supplement the forward movement of the 'Dozer with a quick, upward lift of the bowl. This will enable the operator to pile the snow high on either side of the 'Dozer. In snow having certain moisture content, it is sometimes necessary to pivot the tractor by disengaging either steering clutch in order to side-cast the snow.



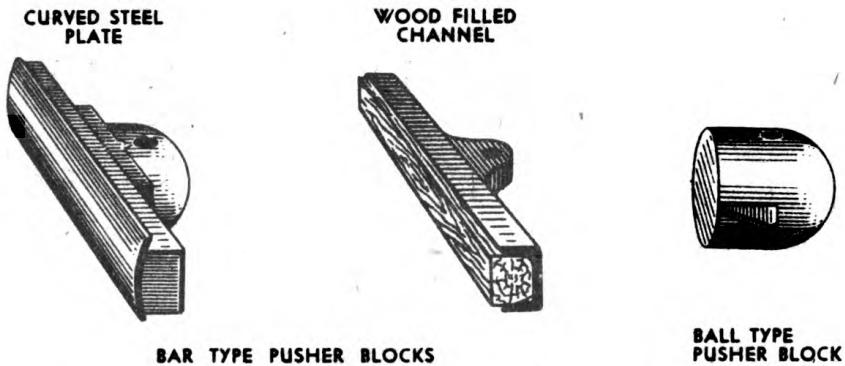
### PUSHING

The use of pusher tractors when loading or dumping Carryall Scrapers is often recommended to boost production.

The pusher tractor may be equipped with either an Angledozer, or the Pushdozer, which consists of the Angledozer yoke and a special pusher cup which is substituted in place of the bowl. If an Angledozer is used, adjust the bowl to the straight "bulldozing" position. When using an Angledozer as pusher, it should be remembered that this tool was designed primarily for

other purposes, and that if improperly operated, or if used with a Scraper having the wrong type of pusher block, the 'Dozer bowl may become damaged through abuse.

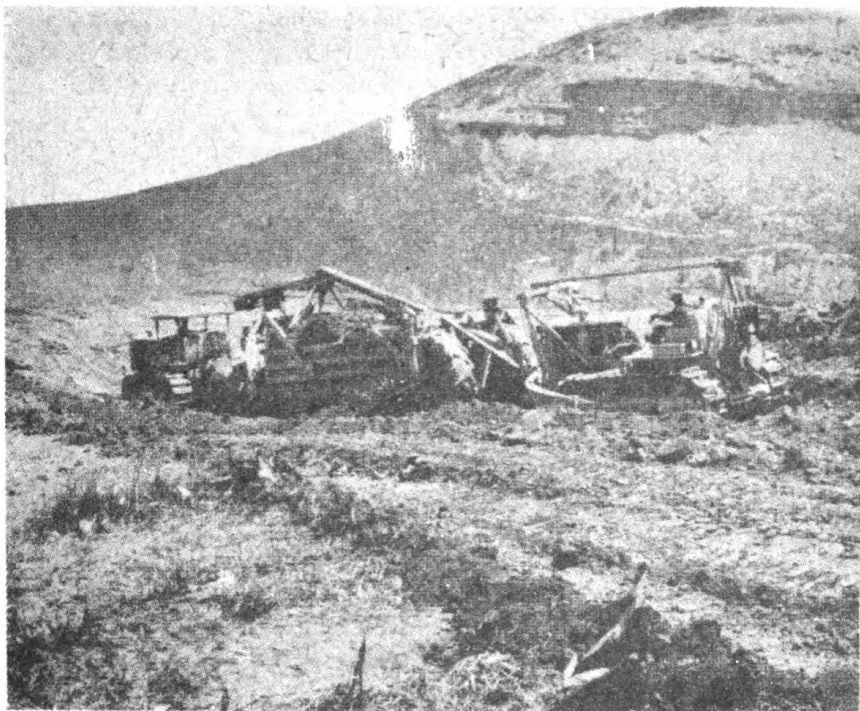
Pusher blocks for installation on the rear of Scrapers are of two general types. One is a steel block which is designed to fit the pusher cup which is on the front of the Pushdozer. The other type consists of a horizontal bar, either of all steel construction with a curved face to fit the curvature of the 'Dozer bowl, or of wood filled channel construction, as illustrated. The bar type pusher block provides the comparatively large amount of contact surface required to prevent localizing shocks on 'Dozer bowls, and should be used exclusively with Angledozer.



When pushing, always try to make easy contact with the pusher block on the rear of the Scraper when starting to push. After having brought the Pushdozer cup or 'Dozer bowl into contact with the pusher block, move forward with the lead tractor and Scraper, assisting in the loading of the Scraper.

The speed of the pusher tractor should be synchronized with that of the lead tractor, traveling along at the same rate of speed. When pushing a tractor-drawn Carryall Scraper, the lead tractor should be allowed to labor harder than the pusher tractor in order to prevent pushing the Scraper faster than the lead tractor is moving, which would cause the Scraper to "jack-knife". However, when pushing a Tournapull-drawn Scraper, the tractor engine should be allowed to labor harder than the engine in the Tournapull, in order to prevent unnecessary Tournapull tire wear. In the latter case, the Tournapull engine may be speeded up to straighten the machine up if it should start to "jack-knife" while loading.





Do not push the rear of the Scraper sideways while pushing. If done, this practice may cause chafing and cutting of tires, and might even cause the tires to be pulled off the wheels. Try to keep the lead tractor, Scraper and pusher tractor operating in a straight line at all times.

If pushing with an Angledozer, be very careful not to permit the 'Dozer blade to cut into the rear tires of the Scraper.

If the Scraper should start to "hang-up" or stall by cutting too deep or by the blade striking an obstruction, both the lead and pusher tractors should be operated at wide open throttle until the Scraper is made free and can be moved forward more easily.

An efficient operator on a pusher tractor will plan his work so that he can make contact with the Scraper that is to be pushed with the least possible delays, thereby eliminating unnecessary lost motion of the Scraper unit. If using an Angledozer as "pusher", the 'Dozer may be used for leveling, etc., while waiting for another Scraper, especially when using the pusher to assist in dumping or unloading.

**SAFETY PRECAUTIONS**

Always lower 'Dozer bowl to ground when working around 'Dozer or when leaving the 'Dozer after having completed day's operation.

Never use weak, frayed cable, because of the injury that may occur to the operator or those around the 'Dozer if it should break when under tension.

Keep excessive slack out of cable.

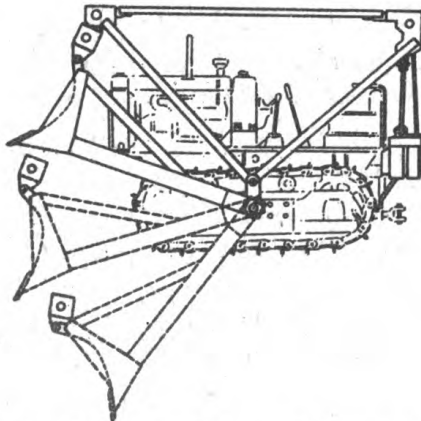
Always keep hands and body free of sheaves, etc., when tractor engine is running.

**FUNCTIONS OF 'DOZER**

The functions of the Angledozer are the raising and lowering of the bowl as the tractor moves forward to cause the blade to dig to the desired depth. The bowl may be positioned straight across the front of the tractor or angled to either side for side-casting dirt.

The operator can control accurately the raising and lowering of the bowl by means of the Power Control Unit on the rear of the tractor.

When the Power Control Unit clutch is engaged, the 'Dozer bowl is raised. When the control lever is returned to neutral position the Power Control Unit brake holds the bowl at the level to which it has been raised. When the brake is released, the bowl is lowered.



Angling the bowl to either side for side-casting is accomplished by removing the sidearm pins and swinging the bowl around. The bowl is held in the angled position by reinserting the sidearm pins through the sidearms and brackets (refer to adjustment instructions).

**SPECIFICATIONS**

**MODEL** ..... WCK7  
 For use on tractor.....Caterpillar D7  
 Controlled by.....LeTourneau Power Control Unit

**BOWL**

Type cutting edge.....Reversible, with hardsurfaced  
 replaceable tips  
 Dimensions of cutting blade without tips... $\frac{3}{4}$ " x 10" x 11' 0"  
 Dimension of replaceable tips.....1" x 10" x 15 $\frac{1}{2}$ "  
 Height of blade and bowl.....36"  
 Blade tilt adjustment (for digging with point).....12"  
 Height blade can be raised above ground level.....41"  
 Depth blade can be lowered below ground level.....72"  
 Maximum blade angle, right or left.....30°

**OVERALL MEASUREMENTS (Tractor included).**

Length, mounted with blade straight.....17' 3"  
 with blade angled 30°.....20' 6"  
 Width, mounted with blade straight.....13' 7"  
 with blade angled 30°.....11' 7"  
 Height .....9' 5"

**CABLE**

Type.....6 x 19 wire rope of Warrington construction,  
 with strand center, Langlay pre-formed, and  
 made from improved plow steel, or rope of  
 equal construction.  
 Size of wire rope..... $\frac{1}{2}$ " diameter  
 Length of wire rope.....65' (rear Power Control Unit)  
 55' (front Power Control Unit)

**GENERAL SPECIFICATIONS**

Type of frame used.....C type yoke  
 Bearings.....Roller

**APPROXIMATE SHIPPING WEIGHT**

Less Power Control Unit.....5390 lbs.

**PREPARATION FOR INITIAL OPERATION**

If the Dozer arrives disassembled, it is first necessary to assemble the unit. Refer to assembling instructions on page 6 of the Maintenance Section.

After the Dozer has been completely assembled, thread the cable through the sheaves and onto the Power Control Unit cable drum. Lubricate all points of lubrication. Check the cable to see that it is properly threaded.

After the above has been done, the Dozer is ready to be placed in operation.

**LUBRICATION****SHEAVE BEARINGS:**

The sheave bearings receive lubrication through the grease fittings in the ends of the sheave pins.

Insert one or two shots of grease through the grease fittings with a conventional pressure grease gun every eight hours of operation, forcing out a small amount of old grease around the hubs of the sheave wheels. Use CG-1 (grease, general purpose, No. 1) in temperatures from +90° F. to +32° F., and CG-0 (grease, general purpose, No. 0) in temperatures from +32° F. to 0° F.

For instructions when operating in temperatures above +90° F., refer to Engineer Field Service Bulletin L-1000-E. In temperatures below 0° F., refer to Engineer Field Service Bulletin L-1000-D.

**CABLE LUBRICATION**

The control cable (wire rope) should be lubricated at infrequent intervals to prevent rust. Coat the cable sparingly with OE-10 or OE-30 when needed, using a paint brush.

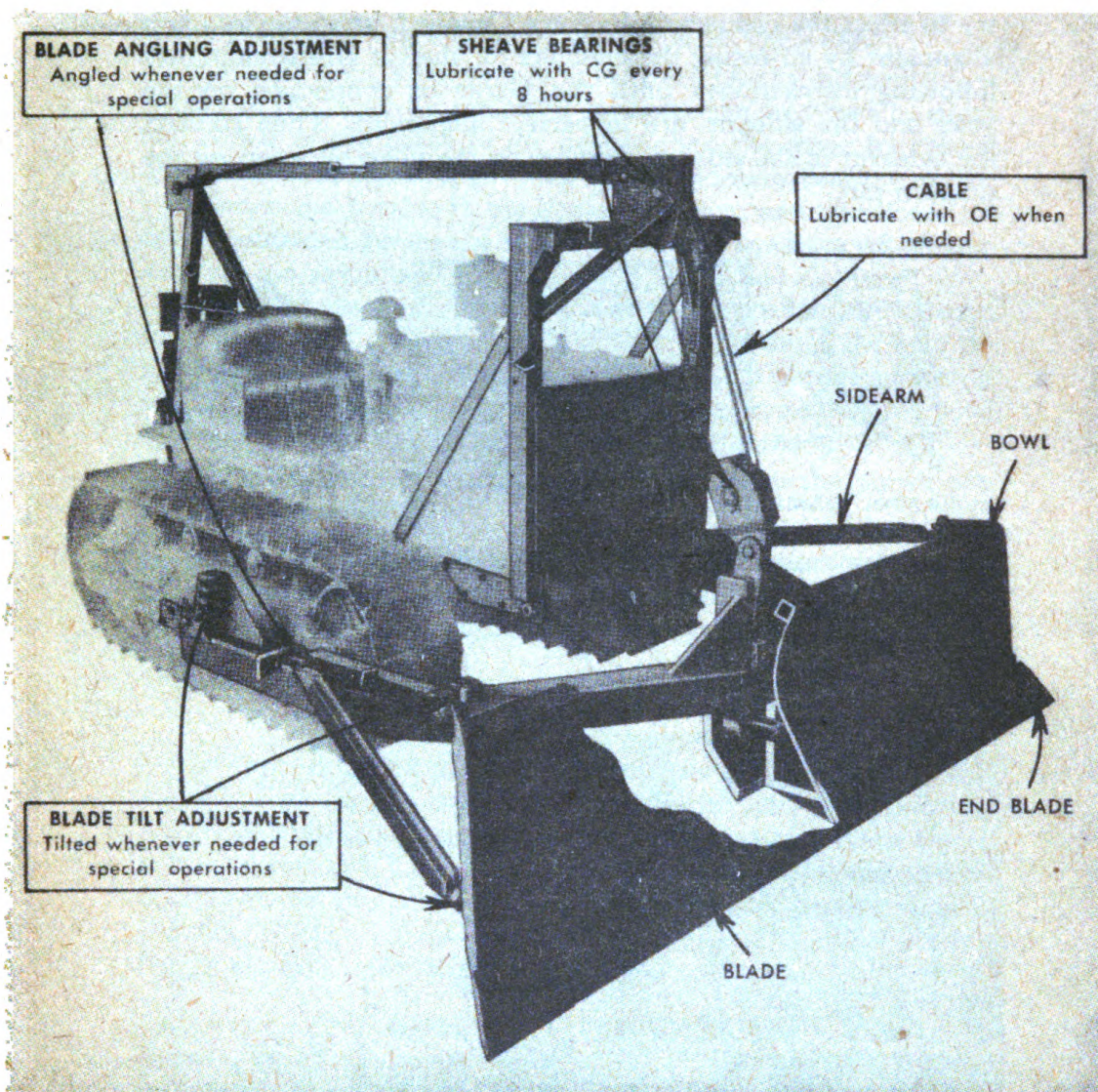
Avoid over-lubrication, especially when operating in dusty conditions, because of the tendency of the lubricant to pick up particles of dust, allowing them to work into the cable and acting similar to a cutting compound.

If the Power Control Unit is equipped with woven clutch and brake facings, do not coat that portion of the cable which wraps onto the cable drum, because of the danger of oil getting on the facings and causing brake and clutch slippage.

**ADJUSTMENTS**

**ANGLING ADJUSTMENT:** The bowl on any LeTourneau Angledozer having a "C" type yoke can be angled to the right or left by one man without difficulty.

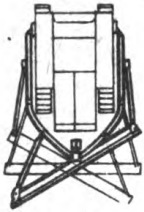
In the straight "bulldozing" position, the sidearms which extend back from the corners of the bowl are connected to the second sidearm bracket on either side of the yoke. To angle the bowl 30 degrees to the left or right, first raise the bowl off the ground and then disconnect the sidearms from the yoke. (Sidearms can be disconnected from yokes by removing the sidearm pins). Swing to the front the side of the bowl that is to be angled forward, and fasten the forward sidearm to the yoke at the front sidearm bracket by means of the sidearm pin. Then move the opposite sidearm into position to fasten to the rear sidearm bracket on the opposite side of the yoke. If the points of connec-



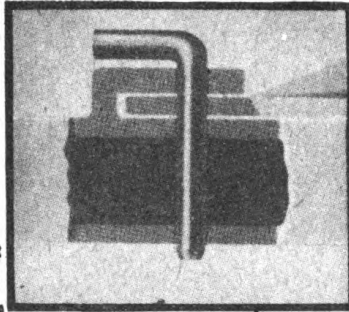
**CUTAWAY VIEW OF ANGLEDOZER, SHOWING POINTS OF LUBRICATION AND ADJUSTMENT THAT CAN BE TAKEN CARE OF BY OPERATOR.**

OPERATION SECTION

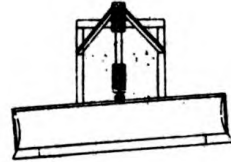
tion between the sidearm and yoke are not in alignment, do not try to effect the connection by force. Instead, bring the two into alignment by adjusting the eyebolts for the tilt adjustment (see following instructions) until the points of connection on the yoke and the sidearm are in perfect alignment. Then connect the sidearm to the sidearm bracket on the yoke by inserting the sidearm pin.



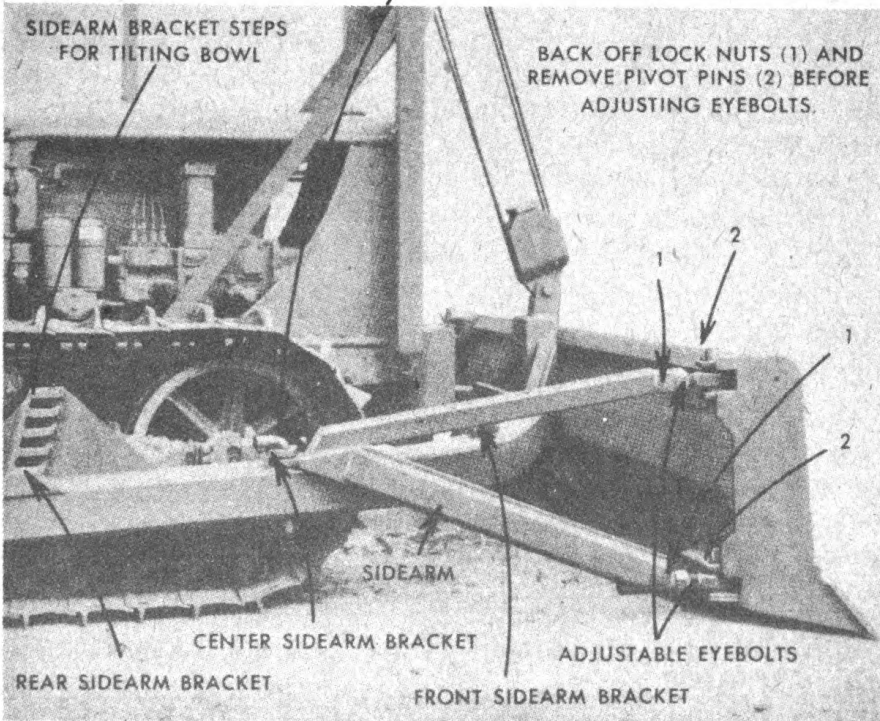
**ANGLE BOWL TO EITHER SIDE BY MOVING SIDE ARM FROM ONE SIDEARM BRACKET TO ANOTHER**  
(Refer to instructions.)



**PIN TYPE SIDEARM CONNECTION**



**MAKE BLADE TILT ADJUSTMENT BY MEANS OF ADJUSTABLE EYEBOLTS AND STEPS ON REAR SIDE-ARM BRACKET**  
(Refer to instructions.)



**BLADE TILT ADJUSTMENT (For Lowering One Corner of the Blade, To Dig Deeper With One Side Than Other.):**

The bowls on yoke type Angledozer having sidearms connected to the bowl by means of eyebolts can be tilted to cause one corner of the blade to dig deeper than the other by raising one sidearm into the upper step in the sidearm bracket on the yoke when the bowl is in the angled position; and additional tilt can be obtained by means of the adjustable eyebolts which connect the sidearms with the corners of the bowl.

To lower the right point of the blade, raise the left sidearm into the upper step in the sidearm bracket on the yoke, with the right side of the bowl angled to the front. To obtain additional tilt, screw out the left upper and right lower corners of the bowl, and screw in the right upper and left lower corners.

To lower the left point of the bowl, reverse the above procedure.

If it is desired to lower one corner with the bowl straight across the front of the tractor, or, in other words, in the "bulldozing" position, make adjustment with eyebolts only as outlined above.

## **CABLE**

LeTourneau 'Dozers are designed for use with Tournarope or other high quality wire rope meeting the following specifications:—6 x 19 wire rope of Warrington construction with strand center, preformed, Langlay, and made from improved plow steel. It should be internally lubricated during the manufacturing process. Right lay cable is ordinarily used. (For diameter and length of cable, refer to Parts Catalog.)

## **ANGLEDOZER BLADES**

The blades or cutting edges used on LeTourneau Angledozer are made of special analysis alloy steel and are given a special heat treatment to insure toughness and reduce wear. The reversible feature of the center blade insures doubling the blade life. The blade tips, or end blades, which are subject to the greatest amount of wear, are removable and can be replaced separately without disturbing the center section. These end tips are made from heavier stock than the center blades and are faced with hardfacing metal to resist abrasion.

The blade should be changed before it has worn back far enough to cause the bowl to be subjected to wear, which would

result in damage to welds and ultimate destruction of the bottom of the bowl.

**REMOVING BLADES:** To remove a blade from a LeTourneau 'Dozer, first raise the bowl off the ground, high enough to conveniently reach the hex nuts on the lower ends of the blade bolts with a wrench. Place blocks under the bowl to prevent it from dropping in case the Power Control Unit brake should be accidentally released.

Then, using the blade wrench, remove the blade bolts which secure the blade to the bowl and remove the blade.

End tips can be removed in the same manner as blades, excepting that it is also necessary to remove the end-tip cap-screws.

**INSTALLING BLADES:** To install a blade on a LeTourneau 'Dozer raise the bowl high enough to conveniently reach the bottom side of the bowl with a wrench. Place blocks under the bowl to prevent it from falling if the Power Control Unit brake should accidentally be released.

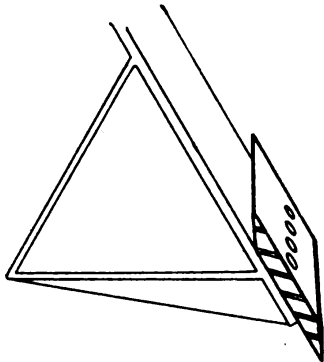
Then place the blade in position on the bowl, insert the blade bolts and install the hex-nuts on the bolts from the lower side of the bowl.

After tightening the nuts as tight as possible with the wrench, strike the heads of each bolt a few blows with a hammer and then re-tighten each of the nuts.

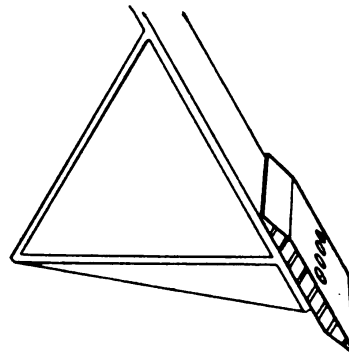




The center blades should be installed with the beveled edges positioned as illustrated.



WRONG



RIGHT

**PRECAUTIONS, SAFETY MEASURES, and TROUBLE CORRECTIONS**

Prevent excessive cable wear by keeping slack out of control cable.

If the Power Control Unit with which the Dozer is operated is equipped with double-deck sheaves, tie the sheave housing nearest the cable to the double-decker bracket to prevent it from swinging and fouling the cable.

If short cable life is experienced, check sheave alignment to determine whether the cable is fouling in any place.

Do not leave the Power Control Unit clutch engaged after the 'Dozer bowl has been raised up against the stop block at the front of the A-frame. This practice is hard on cable, Power Control Units and 'Dozers.

Change blades before they become worn back to the blade base.

Do not drag the 'Dozer bowl backward over rocks, stones, etc.

If the 'Dozer bowl should tend to ride along on top of the ground when the bowl becomes partially filled with dirt, this can usually be corrected by setting the top of the bowl farther to the rear. This can be done within a limited range by screwing in the two eyebolts at the top of the bowl and screwing out the two eyebolts at the bottom of the bowl.

Do not repeatedly hoist the bowl with one corner caught under a stump or other heavy object that is extremely difficult

to move. If done repeatedly, this may result in the bowl becoming sprung. Use the center of the bowl rather than the corners in operations of this type, if possible.

Should cracks or breaks occur on any part of the 'Dozer, make the necessary repairs immediately before the cracks or breaks become serious and beyond repair. (Refer to welding instructions in Maintenance Manual.)

Keep trunnion bracket capscrews tight at all times. If not done, the capscrews may shear off when the bowl is subjected to heavy shock loads.

### **OPERATION IN DUSTY, MUDDY, LOW TEMPERATURE AND OTHER ABNORMAL CONDITIONS**

No special instructions are required for preparing the 'Dozer for operation in dusty, muddy, low temperature or other abnormal conditions. However, if the 'Dozer is used for snow and ice removal or operated in frozen ground, the operating instructions on pages 12 and 17 should be followed.

### **PREPARATION FOR STORAGE**

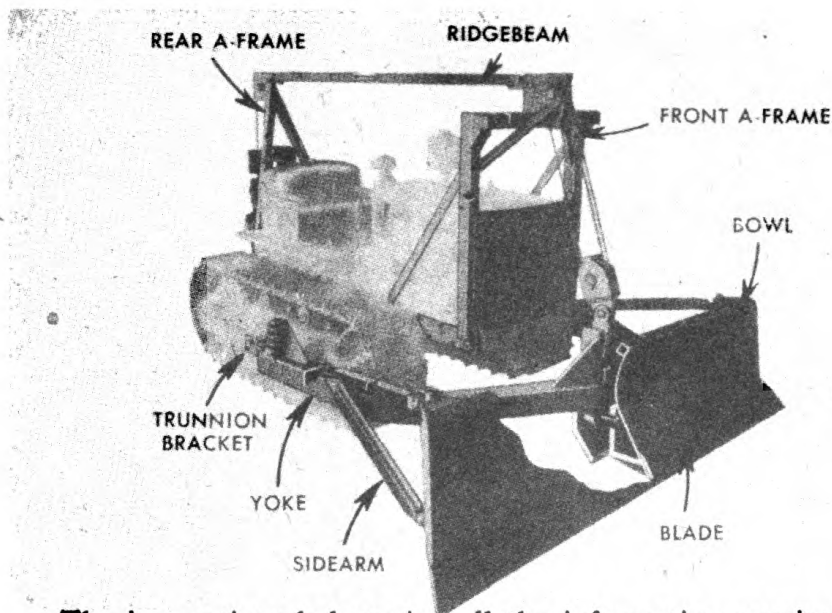
Before placing the 'Dozer in storage the following steps should be taken:

1. Wash the Dozer clean of all dirt, grease, etc.
2. Lubricate all points of lubrication.
3. If the paint has been worn off the bowl and the 'Dozer is to be stored in the open, either paint the bowl or coat it with oil or rust preventative to prevent rust.

## SECT. 2

# REPAIR AND MAINTENANCE

LeTourneau 'Dozers are comparatively simple in design and are sturdily constructed of special analysis alloy steel by the electric arc welding process. They have few working parts and points of adjustment and if properly operated and maintained, they should give trouble-free service.



The instructions below give all the information required to enable the repairman to overhaul, repair, and maintain the Angledozer.

## ADJUSTMENTS

There are no points of adjustment on the Angledozer requiring the attention of the maintenance and repair men at specified hourly intervals. However, the eyebolts, mounting bolts, etc. should be kept tight at all times.

Operators adjustments are covered on page 24 of the Operation Section.

## LUBRICATION

Refer to page 22 of the Operation Section for Lubrication Instructions.

## CABLE

Refer to page 25 of the Operation Section for specifications of cable or wire rope to be used.

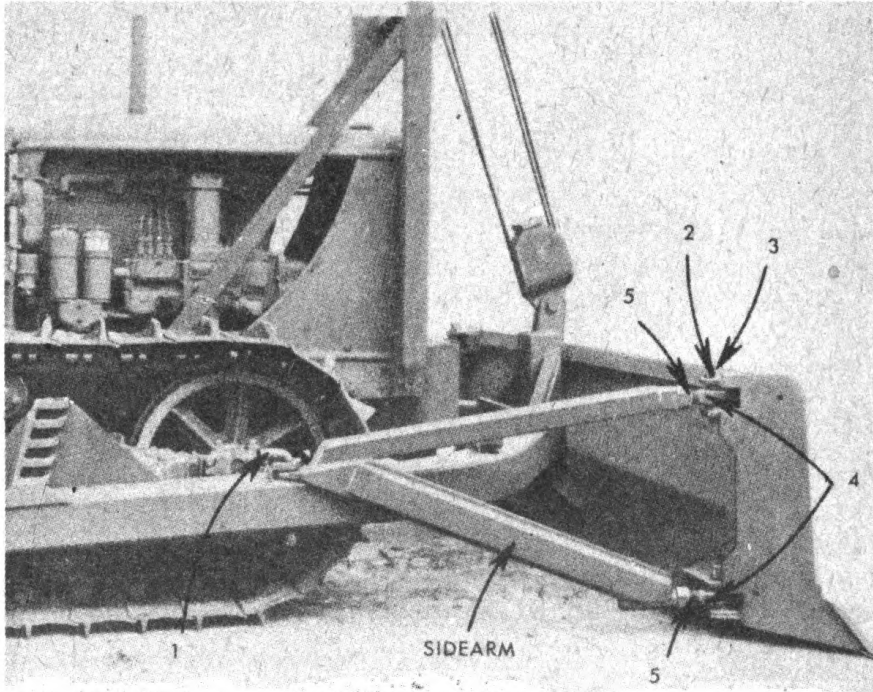
## ANGLEDOZER BLADES

Refer to page 25 of the Operation Section for instructions covering the installation and removal of Angledozer Blades.

**DISASSEMBLING**

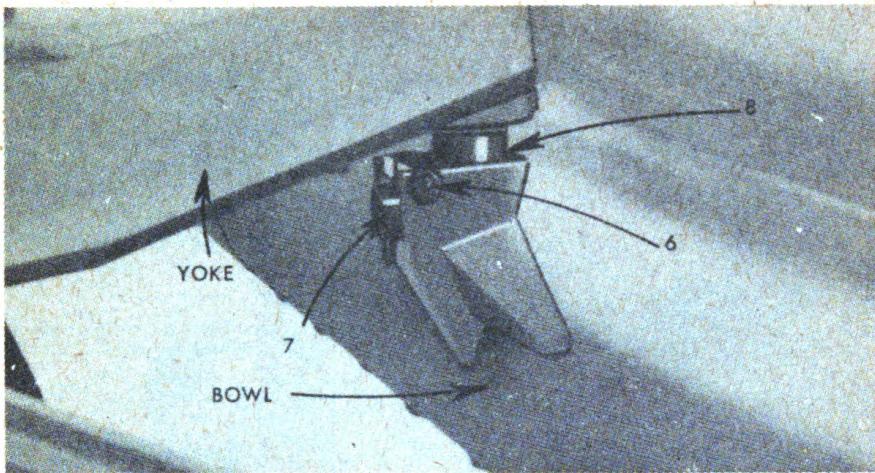
The Angledozer can be disassembled by the following procedure:

**REMOVING SIDEARMS**—To remove the right sidearm, first remove the sidearm pin (1). Then remove cotter pins from small lock pin (2) and remove the lock pin. Pivot pin (3) can then be removed. Complete the removal by removing the lower pivot pin in a like manner.



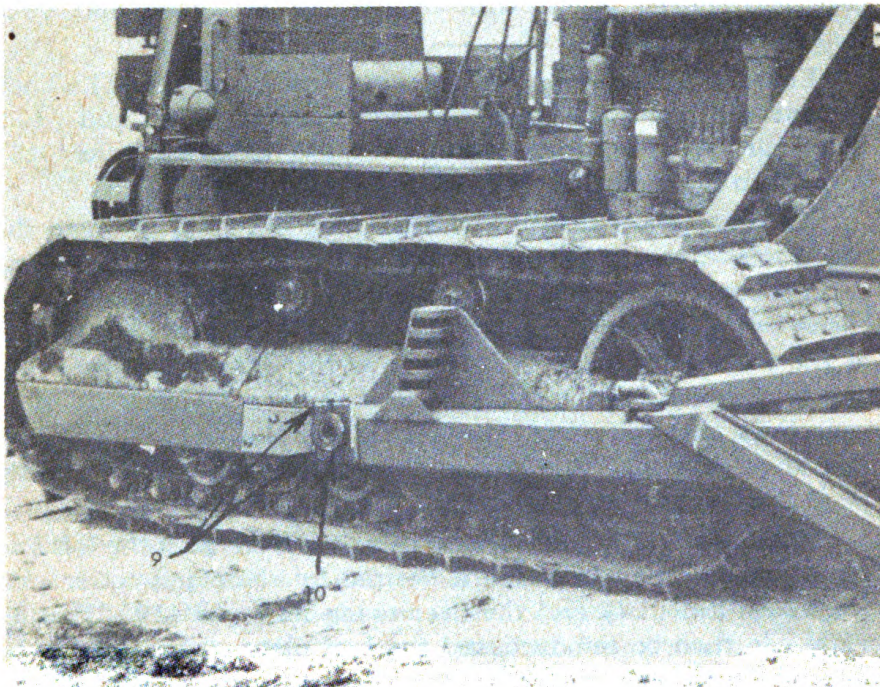
The left sidearm may be removed by following the same procedure. To remove the eyebolts (4) from the sidearms, turn them out of the tapped holes in the sidearms, backing off nuts (5) if necessary.

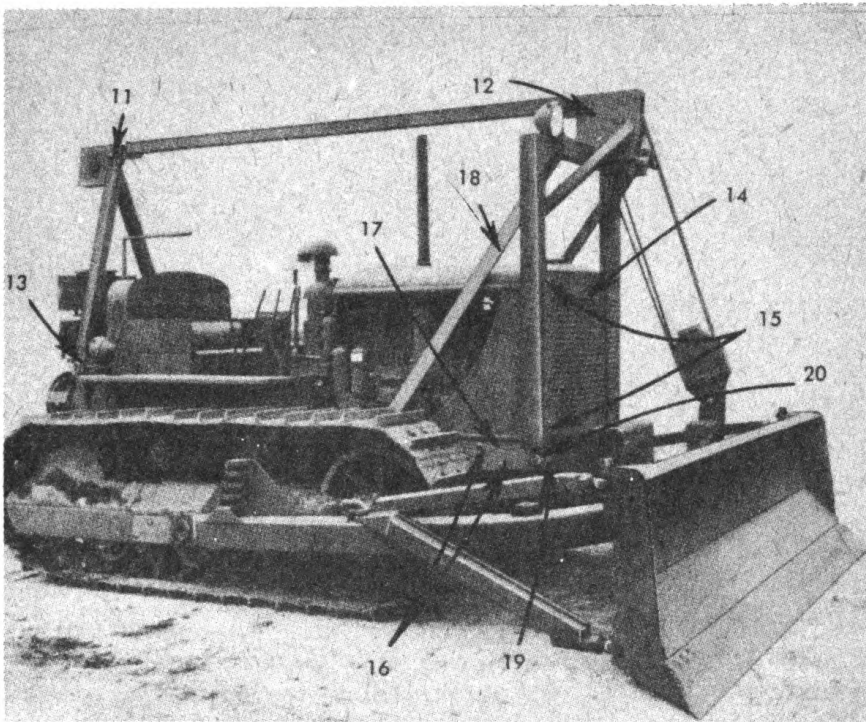
**REMOVING BOWL:** To remove the bowl, first remove the sidearms as outlined above. Then, with the bowl lowered to the ground, release clamp bolt (6) from the center pivot point of the bowl. Remove cotters and lock pin (7) and then remove the pin. (A tapped hole is provided in the end of pin (7) into which a  $\frac{1}{2}$ " N. C. Capscrew can be inserted to assist in pulling the pin if necessary.) This will free the bowl from the yoke, and by raising the yoke, the universal forging (8) will be raised away from the bowl.



**REMOVING YOKE:** To remove the yoke, first remove the control cables. Then remove bolts (9) from the right trunnion cap (10). Remove the left trunnion cap in the same manner. This will free the yoke from the tractor.

(NOTE: For convenience in re-installing, blocks may be placed under the rear of the yoke before removal to prevent it from dropping when the trunnion caps are removed. By so doing, it will not be necessary to raise the rear of the yoke to re-install it on the tractor.)



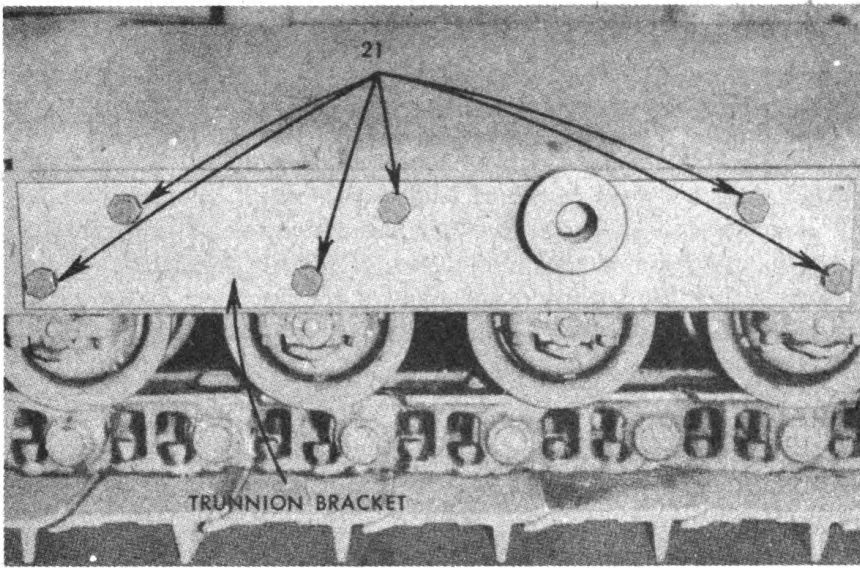


**REMOVING RIDGEBEAM AND FRONT AND REAR "A" FRAMES:** The ridgebeam and front and rear "A" frames can be removed either with or without the bowl and yoke removed from the tractor.

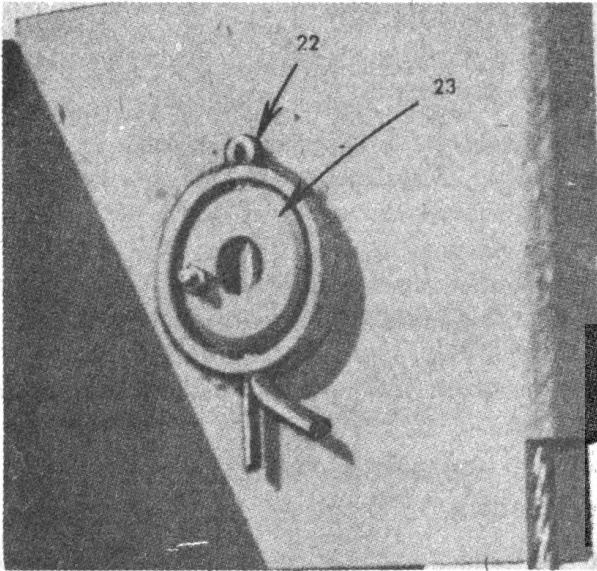
First remove the cable (if not already removed). Then remove the ridgebeam by removing capscrews (11) and (12). The rear "A" frame can be removed by removing bolts (13) from both the right and left sides of the "A" frame.

To remove the front "A" frame, attach a hoist chain to the "A" frame at the top. Remove radiator guard (14) by removing capscrews (15) which secure it to the "A" frame. Then remove capscrews (16) which secure foot plate (17) to the right side of the tractor frame and also remove the bolts from the lower end of diagonal brace (18). Likewise, remove the corresponding capscrews and bolts from the left side of the tractor. This will free the "A" frame and it can then be moved forward, away from the tractor.

Foot plates (17) can then be removed from both the left and right sides of the "A" frame if desired by removing cotter pins from lock pin (19) and then removing lock pin (19). Washer (20) can then be removed and the foot plate is then free to be removed from the "A" frame.



**REMOVING TRUNNION BRACKETS:** To remove either the right or left trunnion bracket, first remove the yoke as previously outlined. Then remove the capscrews (21) which secure the trunnion bracket to the tractor track roller frame.



**REMOVING SHEAVE WHEELS, BEARINGS, AND PINS:** To remove the sheave wheels, bearings, and sheave pins, first remove cotter pin (22) and then remove sheave pin (23) from the housing. The sheave wheel can then be removed from the housing and the bearing removed from the hub of the sheave wheel.

## OVERHAULING AND REPAIRING

Other than replacing worn cable, sheaves, bearings, or pins, practically the only type of repairs ever required on LeTourneau Angledozers are welding repairs.

**WELDING REPAIRS** — Since LeTourneau 'Dozers are welded together and made of high alloy steel, breakage of any of the main structures seldom occurs. However, it is impossible to build any type of machinery, even heavily constructed electrically arc welded alloy steel equipment such as 'Dozers, that will withstand all types of abuse continuously without occasional breakage.

If any welded member of a LeTourneau 'Dozer starts to crack or break through severe abuse, the 'Dozer should be stopped immediately and the crack welded up and reinforced before the damage becomes serious.

Only alloy steel should be used in reinforcing LeTourneau 'Dozers and coated arc electrodes used in welding. The welding heat should be kept comparatively low to prevent burning up the alloy qualities of the steel.

## ASSEMBLING

To assemble and install the 'Dozer on the tractor, simply reverse the instructions for disassembly.

When installing the sidearms, it may be necessary to turn the eye-bolts in or out a short distance to cause the pin holes in the sidearms to line up with those on the bowl and yoke.

For operating the 'Dozer with a rear Power Control Unit, the cable should be dead-ended at the cable wedge on the left side of sheave housing on the front A-frame, while when operating with a rear Power Control Unit the cable is threaded through the sheaves in the reverse order and dead-ended on the right side of the sheave housing.

Make sure sheave bearings are free of dirt, grit, or other foreign matter before installing.

Grease all points of lubrication before placing 'Dozer in operation.

**TABLE OF CLEARANCES AND TOLERANCES OF ALL BEARINGS AND ADJUSTABLE PARTS**

POINT OF ADJUSTMENT	CORRECT ADJUSTMENT	ALLOWABLE TOLERANCE
Sheave Bearings (Straight roller)	Non-Adjustable	.....



# PREPARATION OF REQUISITIONS

## SAMPLE COPY FOR USE IN THE PREPARATION OF REQUISITIONS

State PERIOD designation by use of one of the following terms:

- (1) "INITIAL" — first requisition of authorized allowances.
- (2) "REPLENISHMENT" — subsequent requisitions to maintain authorized allowances.
- (3) "SPECIAL"—requisitions for necessary repairs not covered by allowances.

Type 'SPARE PARTS' in upper right hand corner of requisition.

Give complete shipping instructions. Special instructions for packing, marking, routing, etc., should be given at the end of the requisition.

State proper nomenclature of machine, and make, model, serial number and registration number.

Prepare a separate requisition for each different machine.

State basis or authority and date delivery is required, immediately below description of machine.

Double space between items.

Group parts required under group headings as shown in manufacturers' parts catalogs (Technical Manuals).

State manufacturers' parts numbers and nomenclature descriptions accurately and completely. Do not use abbreviations.

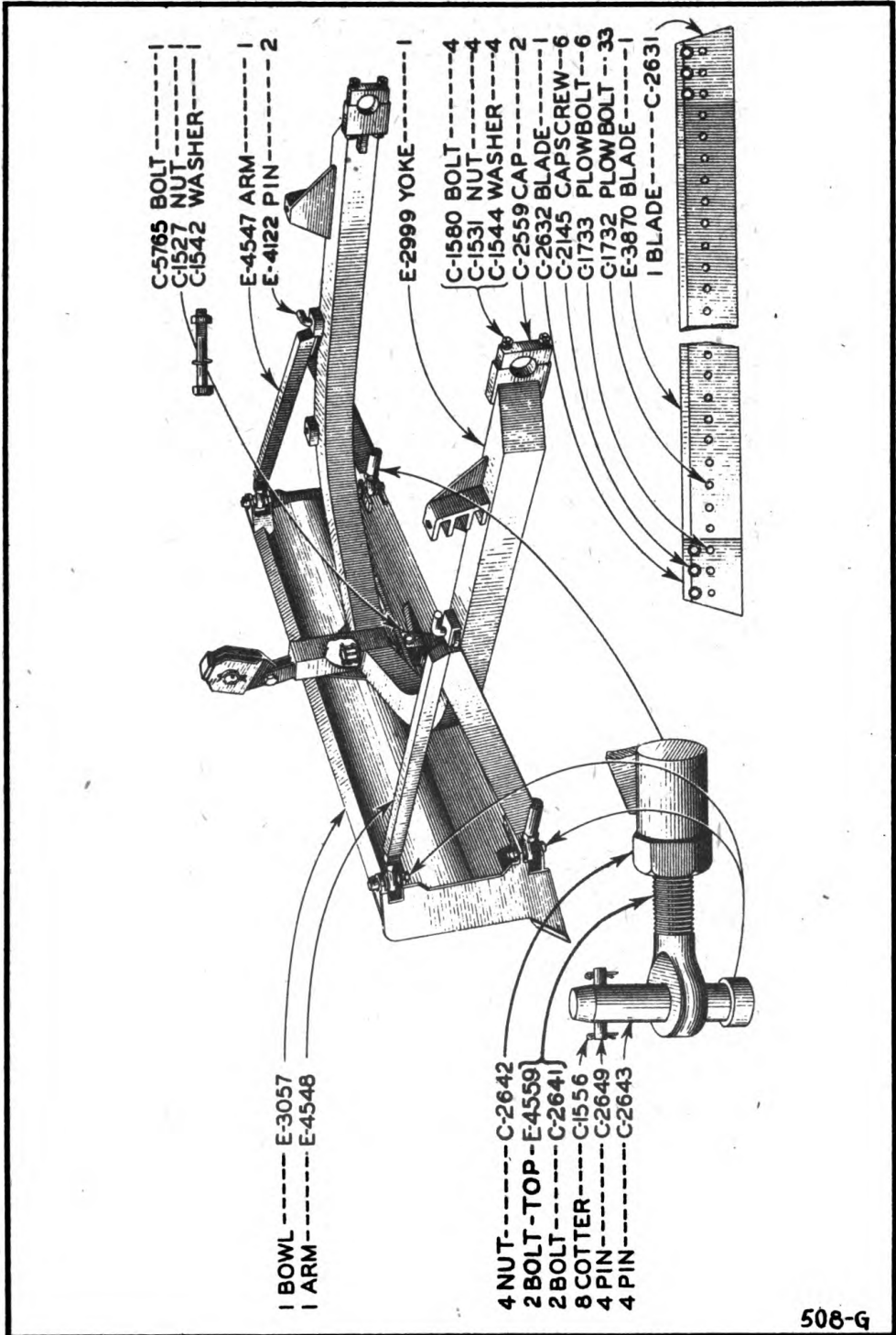
WAR DEPARTMENT G. M. C. Form No. 400 Revised April 1, 1943		SAMPLE REQUISITION		Sheet No. 1		
To: <u>Engineer Supply Officer</u>	No. of Sheets <u>1</u>	Sheet No. <u>1</u>				
Columbus Army Service Forces Depot, COLUMBUS, OHIO		Replenishment Period <u>July 3, 1943</u>				
Requisition No. <u>E-531-3-14</u>	Date <u>July 3, 1943</u>	SHIP TO <u>Engineer Property Officer, Pine Camp, New York</u>				
MARKED FOR: Supply Officer, 502nd Engineer Battalion, Pine Camp, N.Y.						
Requisitioned By (show Signature, Rank, Organization, Destination. If different from "SHIP TO" include address):				Approved For the Commanding Officer		
Robert E. Roe Major, C.E. Engineer Property Officer				John E. Doe Col., C.E. Executive Officer		
MFG. No.	NOMENCLATURE AND UNIT	AUTHORIZED OR MAXIMUM LEVEL	ON HAND	DUE IN	REQUIRED	APPROVED
PARTS FOR <u>ANGLED OILER, LeFOURREAU MODEL WCK7</u> SERIAL NO. <u>A-5000-WCK7</u> AND UP						
Basis: To complete second echelon Delivery requested by August 15, 1943						
BOWL GROUP						
C-2631	BLADE, Left Tin	ea.	2	1	0	1
C-2641	RYEBOLT, Lower	ea.	2	1	0	1
C-2559	CAP, For Trunnion Block	ea.	2	1	0	1
E-3057	BOWL STRUCTURE	ea.	2	1	0	1
A-FRAME GROUP						
E-9565	RIDGEFRAM STRUCTURE	ea.	2	1	0	1
E-1027	FOOTPLATE, Right	ea.	2	1	0	1
E-1028	FOOTPLATE, Left	ea.	2	1	0	1
D-1782	5/16" x 2" COPPER	ea.	2	1	0	1
TRUNNION BRACKET GROUP						
E-186	BRACKET, Right	ea.	2	1	0	1
E-187	BRACKET, Left	ea.	2	1	0	1

\*Nonexpendable items such as tools must be accounted for, when requisitioned, by a statement that they have been placed on REPORT OF SURVEY or STATEMENT OF CHARGES.

Emergency requisitions sent by telephone, telegraph, or radio must always be confirmed immediately with requisition marked: "Confirming (state identifying data)."

590-G

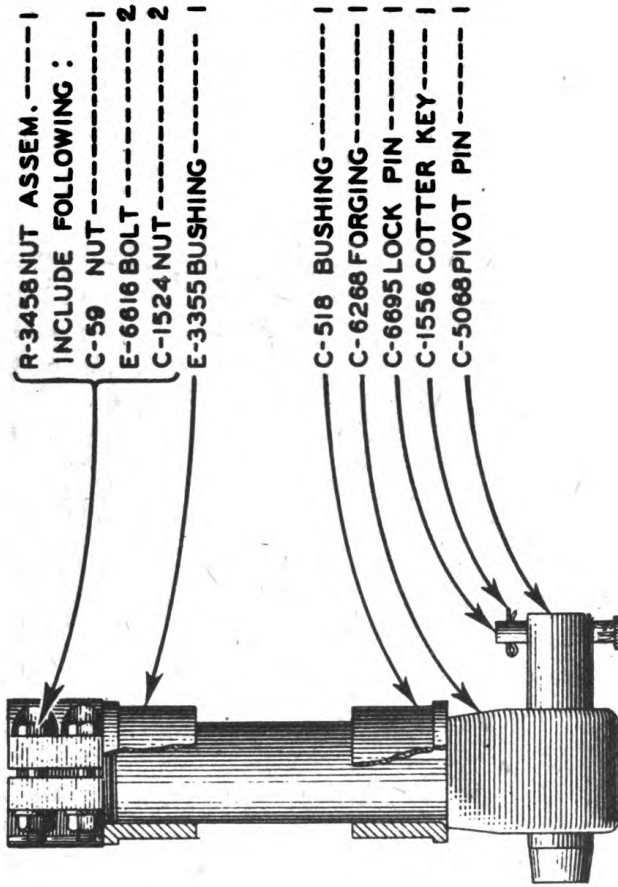
# MODEL WCK7 ANGLEDOZER



## BOWL GROUP

ALWAYS GIVE MACHINE NUMBER WHEN ORDERING PARTS

(A)



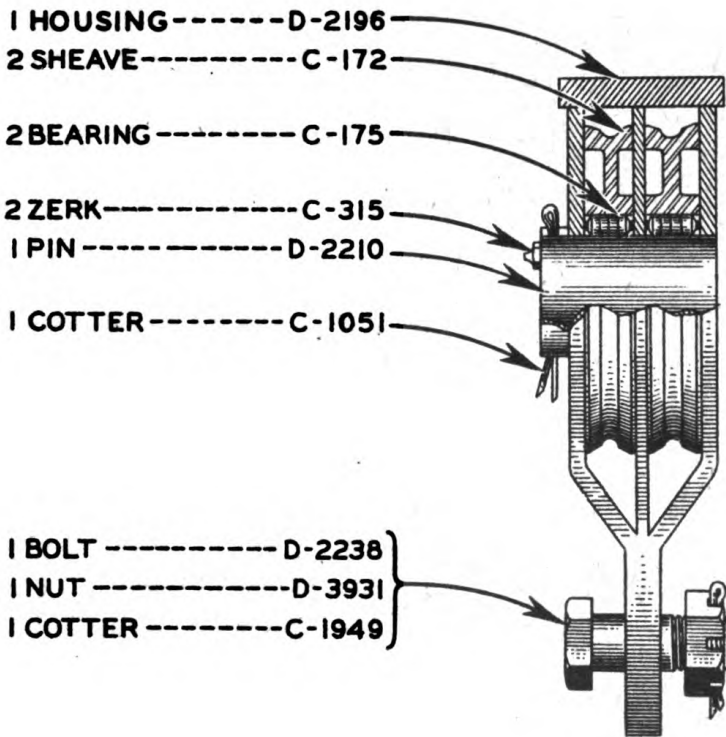
R-3458 NUT ASSEM. ----- 1  
INCLUDE FOLLOWING :  
C-59 NUT ----- 1  
E-6616 BOLT ----- 2  
C-1524 NUT ----- 2  
E-3355 BUSHING ----- 1

C-518 BUSHING ----- 1  
C-6268 FORGING ----- 1  
C-6695 LOCK PIN ----- 1  
C-1556 COTTER KEY ----- 1  
C-5088 PIVOT PIN ----- 1

509-G

BOWL SUB ASSEMBLY

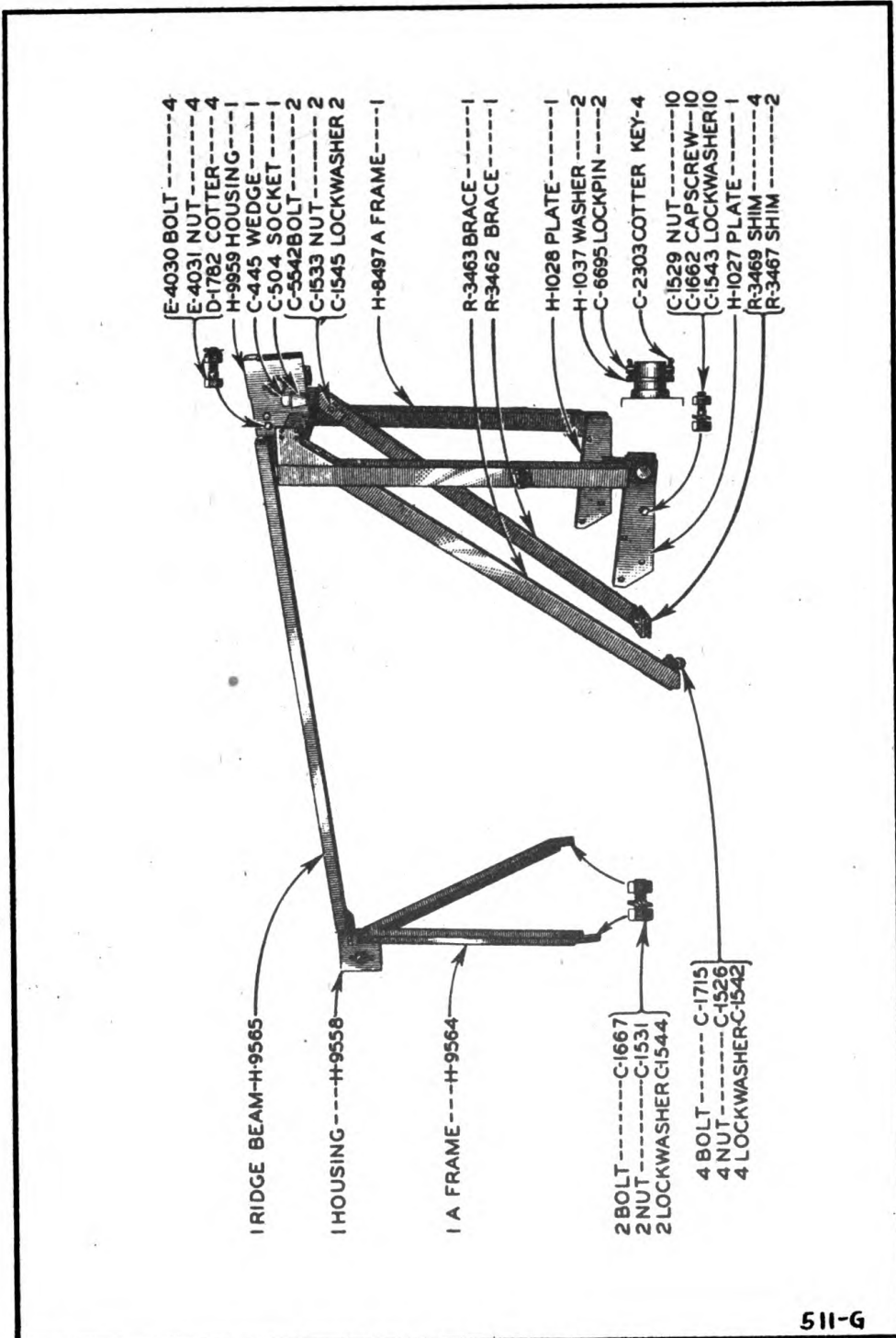
ALWAYS GIVE MACHINE NUMBER WHEN ORDERING PARTS



510-G

HOIST SHEAVE GROUP

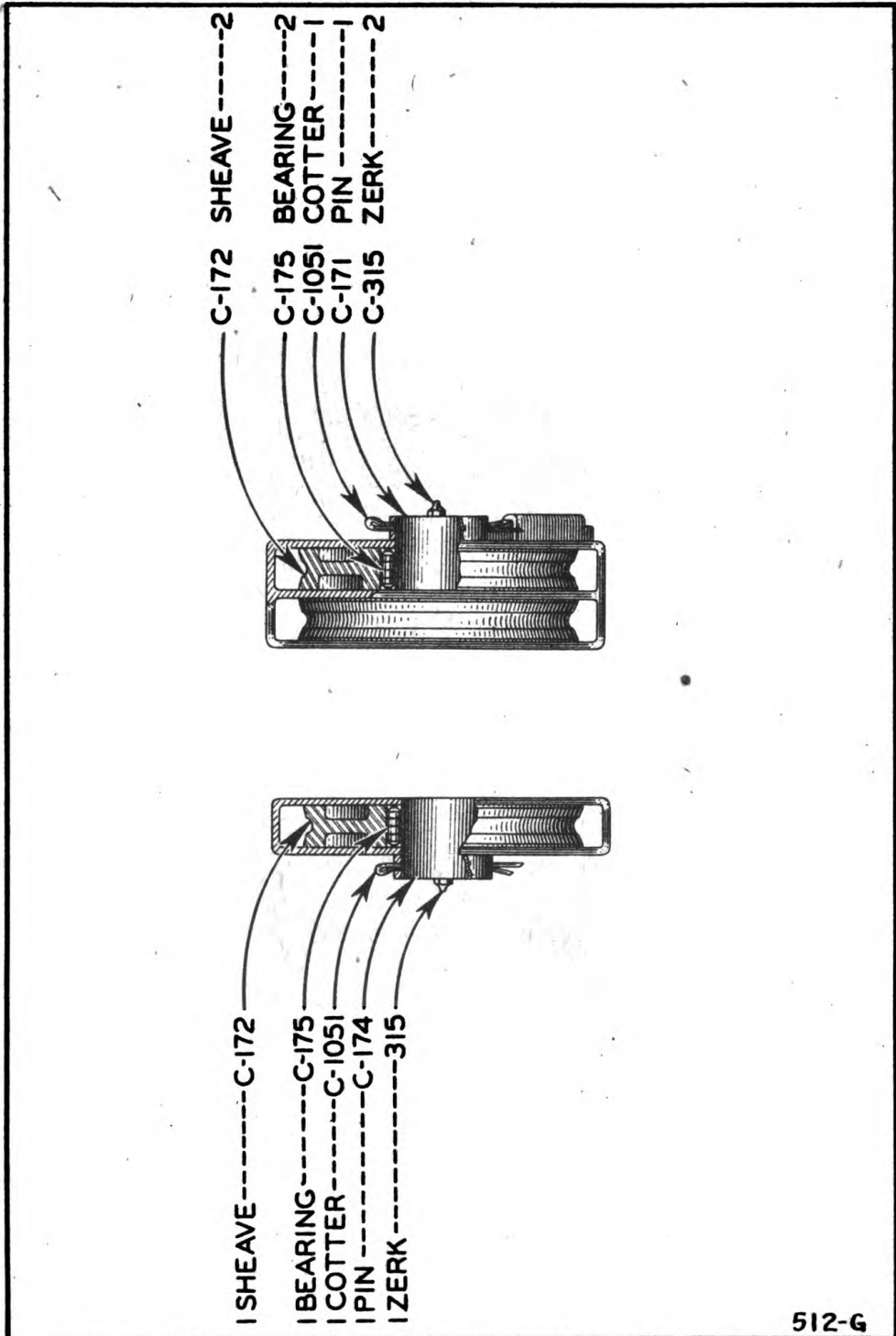
ALWAYS GIVE MACHINE NUMBER WHEN ORDERING PARTS



A FRAME GROUP

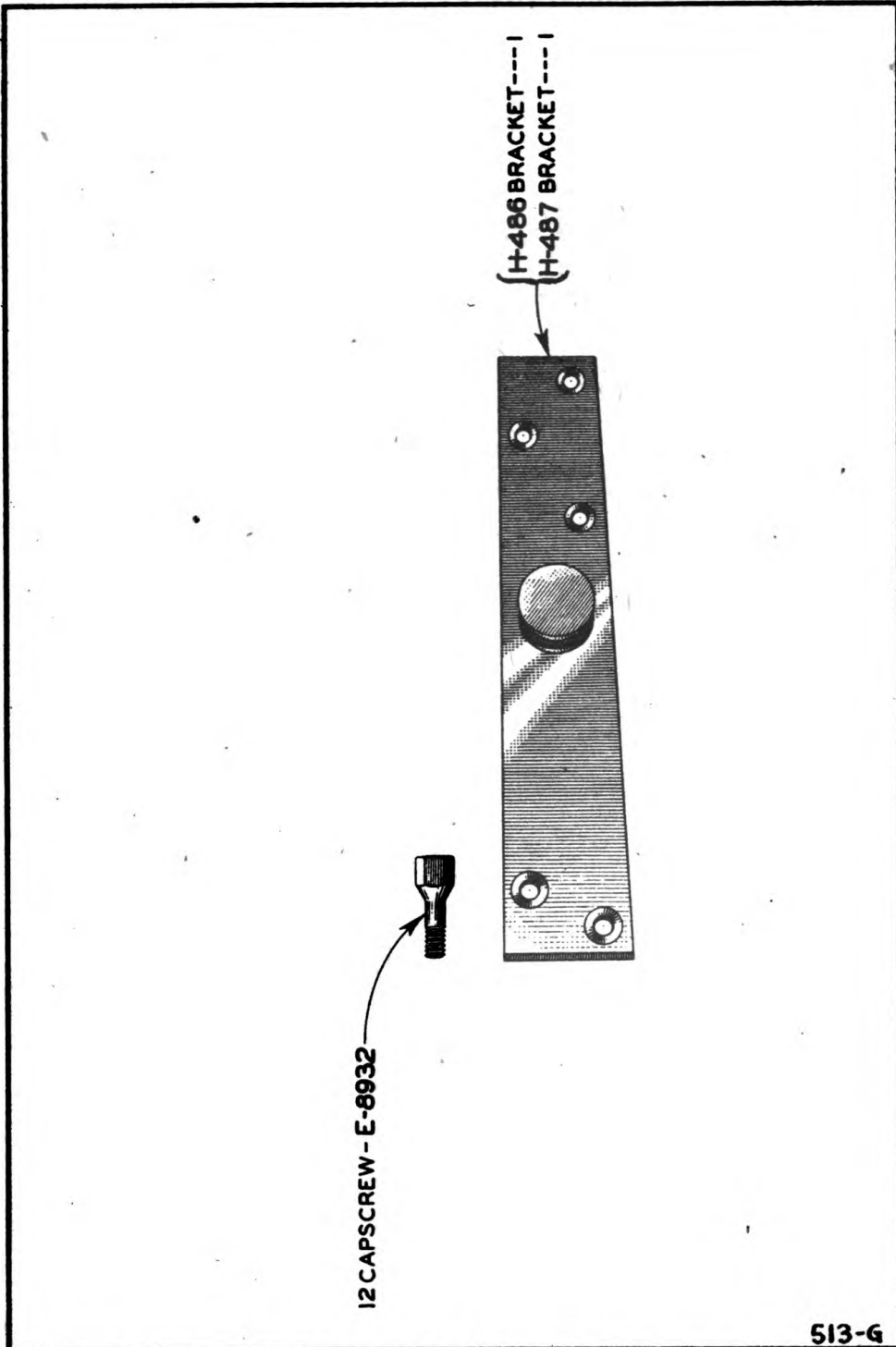
511-G

ALWAYS GIVE MACHINE NUMBER WHEN ORDERING PARTS



**"A" FRAME SUB ASSEMBLIES**

ALWAYS GIVE MACHINE NUMBER WHEN ORDERING PARTS



TRUNNION BRACKET GROUP

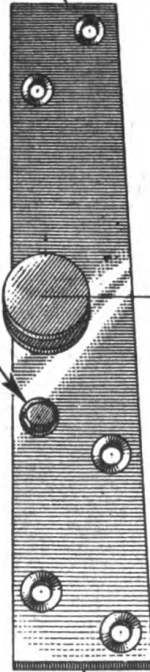
ALWAYS GIVE MACHINE NUMBER WHEN ORDERING PARTS

INSERT AFTER PAGE 6, IN TECHNICAL MANUAL TM5-1224

LEFT BRACKET SHOWN

E-8932 CAPSCREW  
6 USED PER  
BRACKET

R-7044 BRACKET-LEFT-1#  
R-7045 BRACKET-RIGHT-1#



WCK7 ANGLEDOZERS MOUNTED ON CATERPILLAR D7 TRACTORS WITH LARGE FRONT IDLERS SHOULD HAVE BRACKETS WITH SPOOL SET 21<sup>7</sup>/<sub>16</sub>" FROM FRONT EDGE OF PLATE. IF ANGLEDOZER HAS BRACKETS WITH OLD SPOOL SETTING, SPOOL SHOULD BE CUT OFF AND MOVED FORWARD TO CORRESPOND WITH DIMENSION SHOWN ABOVE, OR NEW BRACKETS ORDERED.

FRONT

677-G

TRUNNION BRACKET GROUP

EFFECTIVE WITH SERIAL NO. A-13203-WCK7 B AND UP

ALWAYS GIVE MACHINE NUMBER WHEN ORDERING PARTS

# PRICES AND WEIGHTS SAME AS SHOWN IN SPARE PARTS & PRICE LIST FOR H-486 AND H-487.



# MODEL WCK7 ANGLEDOZER

7

(FOR USE WITH MODEL D7 CATERPILLAR TRACTOR, SERIAL No. 7M1 & UP,  
AND LeTOURNEAU MODEL "R7" REAR POWER CONTROL UNIT)

PART No.	DESCRIPTION	Page	Qty.	WEIGHT		Price Each
				Lbs.	Oz.	
C-171	PIN .....	2	1	8	4	\$3.70
C-172	SHEAVE WHEEL .....	3,5	5	12	..	5.20
C-174	PIN .....	5	1	5	..	2.38
C-175	BEARING (HYATT #RA-212).....	3,5	5	1	8	2.38
C-315	ZERK— $\frac{1}{8}$ " STRAIGHT .....	3,5	5	..	..	.04
C-445	WEDGE—SMALL .....	4	1	..	8	.38
C-504	SOCKET—SMALL .....	4	1	1	4	.68
C-518	BUSHING .....	2	1	4	4	6.11
C-1051	COTTER— $\frac{3}{8}$ " x 5" .....	3,5	5	..	4	.06
C-1526	NUT— $\frac{3}{8}$ " NF HEX .....	4	4	..	..	.04
C-1527	NUT— $\frac{3}{8}$ " NC HEX .....	1	1	..	..	.05
C-1529	NUT— $\frac{7}{8}$ " NC HEX .....	4	10	..	..	.08
C-1531	NUT—1" NC HEX .....	1,4	6	..	..	.11
C-1533	NUT— $1\frac{1}{4}$ " NC HEX.....	4	2	..	14	.23
C-1542	LOCKWASHER— $\frac{3}{4}$ " .....	1,4	5	..	..	.03
C-1543	LOCKWASHER— $\frac{7}{8}$ " .....	4	10	..	..	.05
C-1544	LOCKWASHER—1" .....	1,4	6	..	..	.07
C-1545	LOCKWASHER— $1\frac{1}{4}$ " .....	4	2	..	..	.13
C-1556	COTTER— $\frac{3}{16}$ " x 1" .....	1,2	9	..	..	.01
C-1580	BOLT—1" x $10\frac{1}{2}$ " MACHINE .....	1	4	2	14	.60
C-1662	CAPSCREW— $\frac{7}{8}$ " x $2\frac{3}{4}$ " NC.....	4	10	..	10	.32
C-1667	CAPSCREW—1" x $2\frac{1}{2}$ " NC.....	4	2	..	12	.43
C-1715	CAPSCREW— $\frac{3}{4}$ " x $3\frac{1}{2}$ " NF.....	4	4	..	8	.24
C-1732	PLOWBOLT— $\frac{3}{4}$ " x 2"—#3 HEAD .....	1	33	..	4	.08
C-1733	PLOWBOLT— $\frac{3}{4}$ " x $2\frac{1}{4}$ "—#1 HEAD .....	1	6	..	4	.08
C-1949	COTTER— $\frac{1}{4}$ " x 3" .....	3	1	..	..	.01
C-2145	CAPSCREW—FOR BLADE TIP.....	1	6	..	8	.36
C-2303	COTTER— $\frac{1}{8}$ " x 1" .....	4	4	..	..	.01
C-2559	CAP—FOR TRUNNION BLOCK.....	1	2	8	..	2.95
C-2631	BLADE—LEFT TIP .....	1	1	35	..	7.15
C-2632	BLADE—RIGHT TIP .....	1	1	35	..	7.15
C-2641	EYEBOLT—LOWER .....	1	2	15	..	6.58
C-2642	NUT .....	1	2	2	12	1.57
C-2643	PIN .....	1	4	7	..	3.43
C-2649	PIN .....	1	4	..	4	.53
C-5068	PIN .....	2	1	7	..	3.93
C-5542	CAPSCREW— $1\frac{1}{4}$ " x 3" NC.....	4	2	1	8	.59
C-5765	CAPSCREW— $\frac{3}{4}$ " x 7" NC.....	1	1	1	..	.56
C-6268	FORGING .....	2	1	36	..	20.40
C-6695	PIN .....	2,4	3	..	..	.25
E-2999	YOKE STRUCTURE.....	1	1	1600	..	525.00
E-3057	BOWL STRUCTURE .....	1	1	1450	..	486.25
E-3355	BUSHING .....	2	1	4	8	6.11
E-3870	BLADE—CENTER .....	1	1	240	..	33.50
E-4031	NUT—1" CASTELLATED NUT.....	4	4	..	6	.28
E-4032	BRACE .....	4	4	86	..	28.90
E-4122	PIN .....	1	2	9	8	3.99
E-4547	SIDEARM—RIGHT .....	1	1	185	..	55.63
E-4548	SIDEARM—LEFT .....	1	1	185	..	55.63
E-4559	EYEBOLT—UPPER .....	1	1	11	..	6.53
E-8932	CAPSCREW—TAPERED HEAD .....	6	12	..	12	.37
D-1782	COTTER— $\frac{3}{16}$ " x 2" .....	4	4	..	..	.01
D-2196	HOUSING—HOIST .....	3	1	61	..	19.78
D-2210	PIN .....	3	1	9	..	3.98
D-2238	BOLT— $1\frac{1}{2}$ " x $3\frac{3}{8}$ " NF SPECIAL.....	3	1	2	8	1.01
D-3931	NUT—CASTELLATED .....	3	1	..	8	.61

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## SPARE PARTS & PRICE LIST

ALWAYS GIVE MACHINE NUMBER WHEN ORDERING PARTS

# MODEL WCK7 ANGLEDOZER

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H-486	TRUNNION BRACKET—RIGHT.....	6	1	80	..	22.75
H-487	TRUNNION BRACKET—LEFT.....	6	1	80	..	22.75
H-1027	FOOTPLATE—RIGHT .....	4	1	35	..	9.38
H-1028	FOOTPLATE—LEFT .....	4	1	35	..	9.38
H-1037	WASHER .....	4	1	..	2	.21
H-8497	A-FRAME STRUCTURE—FRONT.....	4	1	372	..	105.80
H-9558	SHEAVE HOUSING .....	4	1	22	..	6.80
H-9564	A-FRAME STRUCTURE—REAR.....	4	1	120	..	48.00
H-9565	RIDGEBEAM .....	4	1	110	..	39.00
H-9959	SHEAVE HOUSING.....	4	1	51	..	17.25
*R-3458	NUT ASSEMBLY.....	2	1	6	8	5.41
R-3462	BRACE .....	4	1	65	..	16.63
R-3463	BRACE .....	4	1	65	..	16.63
R-3467	SHIM .....	4	1	..	..	.08
R-3469	SHIM .....	4	1	..	8	.16
*R-3458	NUT ASSEMBLY (INCLUDES FOLLOWING):					
C-59	NUT .....	2	1	6	8	5.41
E-6616	BOLT .....	2	2	..	..	.10
C-1524	NUT .....	2	2	..	..	.03

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## SPARE PARTS & PRICE LIST

ALWAYS GIVE MACHINE NUMBER WHEN ORDERING PARTS

