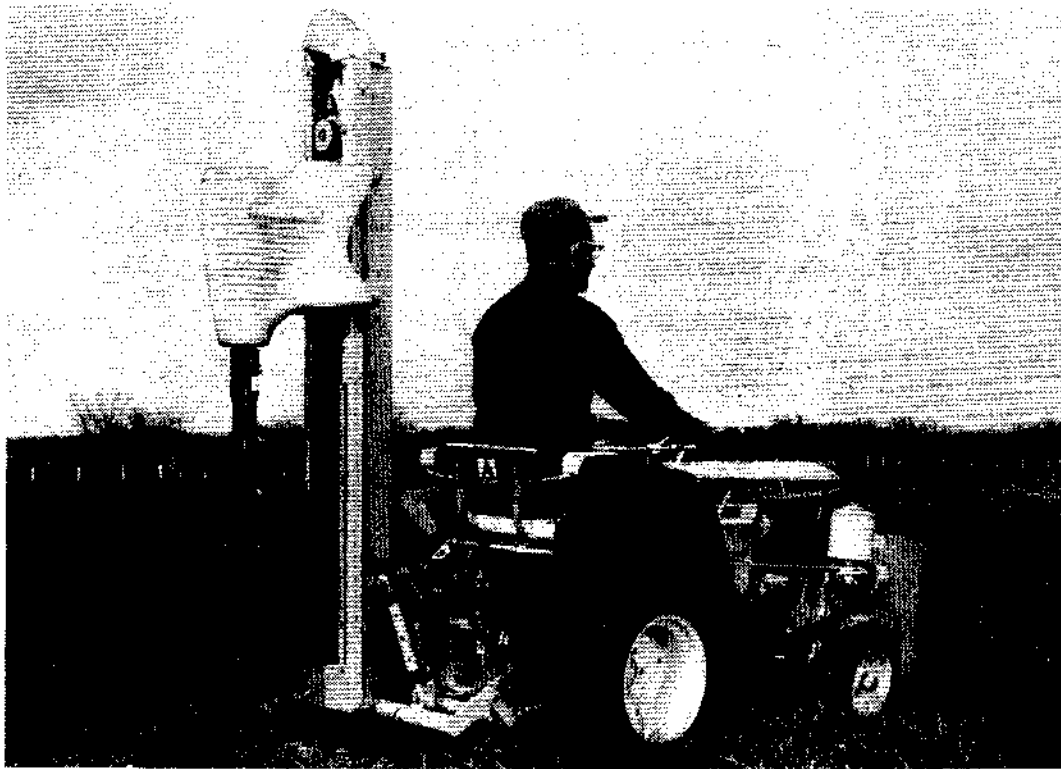


OWNER'S MANUAL

# A-10 EARTH AUGER



 **ALLIS-CHALMERS**

BOX 512 • MILWAUKEE, WISCONSIN 53201

LITHO. IN U. S. A.

FORM TM-7010

# DEALERS PRE-DELIVERY SERVICE

## A-10 EARTH AUGER

Dealer \_\_\_\_\_ Date \_\_\_\_\_

Address \_\_\_\_\_ Serviced by \_\_\_\_\_

Phone \_\_\_\_\_

- 1. ASSEMBLED AND MOUNTED TO TRACTOR
- 2. LUBRICATION
- 3. BELTS CHECKED AND ADJUSTED PROPERLY
- 4. HYDRAULIC SYSTEM FILLED WITH PROPER OIL TO PROPER LEVEL
- 5. AUGER DRIVE HEAD FILLED WITH PROPER LUBRICANT TO PROPER LEVEL
- 6. ALL MOUNTING BOLTS CHECKED AND TIGHTENED
- 7. OPERATION

# DELIVERY RECORD

## A-10 EARTH AUGER

THIS FORM MUST BE FILLED OUT, IN QUADRUPPLICATE, BY THE DEALER AND SIGNED BY THE CUSTOMER AT TIME UNIT IS DELIVERED.

Owner \_\_\_\_\_ Dealer \_\_\_\_\_  
Address \_\_\_\_\_ Town/State \_\_\_\_\_  
Town \_\_\_\_\_ Tractor Model \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_ Tractor Serial No. \_\_\_\_\_  
Phone \_\_\_\_\_ Auger Model \_\_\_\_\_  
Serviced by \_\_\_\_\_ Auger Serial No. \_\_\_\_\_

(Please fill in complete address including county, zip code and phone number.)

### CUSTOMER INSTRUCTION

CARE, SAFE OPERATION AND ADJUSTMENTS OF ITEMS LISTED BELOW:

- |  |  |
|--|--|
| <input type="checkbox"/> LUBRICATION                                   | <input type="checkbox"/> CHECK & TIGHTEN ALL MOUNTING BOLTS AND PINS |
| <input type="checkbox"/> CARE AND ADJUSTMENT OF ALL BELTS              | <input type="checkbox"/> OPERATORS SAFETY PRECAUTIONS                |
| <input type="checkbox"/> CARE OF HYDRAULIC SYSTEM                      | <input type="checkbox"/> OPERATION OF UNIT                           |
| <input type="checkbox"/> AUGER ATTACHMENT, SHEAR BOLT & RETAINING BOLT |  |

THIS MACHINE HAS BEEN DELIVERED TO ME IN GOOD CONDITION AND I HAVE BEEN INSTRUCTED IN ITS CARE, ADJUSTMENT AND SAFE OPERATING PRACTICES.

Delivered by \_\_\_\_\_  
Dealer

Owner \_\_\_\_\_  
Operator \_\_\_\_\_  
Signature

By \_\_\_\_\_  
Date

Owner Occupation \_\_\_\_\_

# DELIVERY RECORD

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Owner \_\_\_\_\_ Dealer \_\_\_\_\_  
Address \_\_\_\_\_ Town/State \_\_\_\_\_  
Town \_\_\_\_\_ Tractor Model \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_ Tractor Serial No. \_\_\_\_\_  
Phone \_\_\_\_\_ Auger Model \_\_\_\_\_  
Serviced by \_\_\_\_\_ Auger Serial No. \_\_\_\_\_

(Please fill in complete address including county, zip code and phone number.)

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- |  |  |
|--|--|
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| <input type="checkbox"/> CARE AND ADJUSTMENT OF ALL BELTS              | <input type="checkbox"/> OPERATORS SAFETY PRECAUTIONS                |
| <input type="checkbox"/> CARE OF HYDRAULIC SYSTEM                      | <input type="checkbox"/> OPERATION OF UNIT                           |
| <input type="checkbox"/> AUGER ATTACHMENT, SHEAR BOLT & RETAINING BOLT |  |

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Delivered by \_\_\_\_\_ Dealer \_\_\_\_\_  
By \_\_\_\_\_ Date \_\_\_\_\_  
Owner Operator \_\_\_\_\_ Signature \_\_\_\_\_  
Owner Occupation \_\_\_\_\_

# DELIVERY RECORD

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Owner \_\_\_\_\_

Dealer \_\_\_\_\_

Address \_\_\_\_\_

Town/State \_\_\_\_\_

Town \_\_\_\_\_

Tractor Model \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Tractor Serial No. \_\_\_\_\_

Phone \_\_\_\_\_

Auger Model \_\_\_\_\_

Serviced by \_\_\_\_\_

Auger Serial No. \_\_\_\_\_

(Please fill in complete address including county, zip code and phone number.)

### CUSTOMER INSTRUCTION

CARE, SAFE OPERATION AND ADJUSTMENTS OF ITEMS LISTED BELOW:

LUBRICATION

CHECK & TIGHTEN ALL MOUNTING BOLTS AND PINS

CARE AND ADJUSTMENT OF ALL BELTS

OPERATORS SAFETY PRECAUTIONS

CARE OF HYDRAULIC SYSTEM

OPERATION OF UNIT

AUGER ATTACHMENT, SHEAR BOLT & RETAINING BOLT

THIS MACHINE HAS BEEN DELIVERED TO ME IN GOOD CONDITION AND I HAVE BEEN INSTRUCTED IN ITS CARE, ADJUSTMENT AND SAFE OPERATING PRACTICES.

Delivered by \_\_\_\_\_  
Dealer

Owner \_\_\_\_\_  
Operator \_\_\_\_\_  
Signature

By \_\_\_\_\_  
Date

Owner Occupation \_\_\_\_\_

# DELIVERY RECORD

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Owner \_\_\_\_\_

Dealer \_\_\_\_\_

Address \_\_\_\_\_

Town/State \_\_\_\_\_

Town \_\_\_\_\_

Tractor Model \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Tractor Serial No. \_\_\_\_\_

Phone \_\_\_\_\_

Auger Model \_\_\_\_\_

Serviced by \_\_\_\_\_

Auger Serial No. \_\_\_\_\_

(Please fill in complete address including county, zip code and phone number.)

### CUSTOMER INSTRUCTION

CARE, SAFE OPERATION AND ADJUSTMENTS OF ITEMS LISTED BELOW:

LUBRICATION

CHECK & TIGHTEN ALL MOUNTING BOLTS AND PINS

CARE AND ADJUSTMENT OF ALL BELTS

OPERATORS SAFETY PRECAUTIONS

CARE OF HYDRAULIC SYSTEM

OPERATION OF UNIT

AUGER ATTACHMENT, SHEAR BOLT & RETAINING BOLT

THIS MACHINE HAS BEEN DELIVERED TO ME IN GOOD CONDITION AND I HAVE BEEN INSTRUCTED IN ITS CARE, ADJUSTMENT AND SAFE OPERATING PRACTICES.

Delivered by \_\_\_\_\_  
Dealer

Owner \_\_\_\_\_  
Operator \_\_\_\_\_  
Signature

By \_\_\_\_\_  
Date

Owner Occupation \_\_\_\_\_

# WARRANTY

ALLIS-CHALMERS MANUFACTURING COMPANY (the Company) warrants its new machinery covered by this order or contract (excluding tires and B-Series engines and engine accessories which are warranted by the respective manufacturers only) to be free of defects in workmanship and material at the time of shipment from the Company's factory.

This warranty is the only warranty upon which the Company's new machinery is sold. NO OTHER WARRANTY SHALL BE IMPLIED AND ALL STATUTORY WARRANTIES SHALL BE DEEMED WAIVED. No warranty of any kind, statutory, implied, or otherwise, is made with respect to second-hand machinery or with respect to new machinery which, after shipment from the Company's factory, has been altered, repaired or treated in any manner whatsoever.

The Company will repair or replace f.o.b. its factory any part in its new machinery which under normal use fails within twelve months (except six months instead of twelve months in the case of products of the Springfield and Deerfield Works of the Company and engines sold as power units) from date of delivery of such machinery to the first user, provided that the Company is promptly notified thereof and that the part is returned to the Company or to an authorized dealer properly identified, charges prepaid, and is found to the satisfaction of the Company to have been defective in workmanship or material at the time of shipment of the machinery from the factory as aforesaid.

The Company's liability whether in contract or in tort arising out of warranties, representations, instructions, or defects from any cause shall be limited exclusively to repairing or replacing under the conditions as aforesaid.

No representative of the Company has authority to change this warranty and no attempt to repair or promise to repair or improve the machinery by any representative of the Company shall change or extend this warranty.

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A-10 EARTH AUGER  
(2046500)

SPECIFICATIONS

General

Model - 2046500  
Weight (Less Auger) - 446 lbs.  
Auger Sizes - 4", 6", 9", 10", 12", 14"  
Serrated Cutting Edges available for 9", 10", 12", 14"

Operational

Digging Depth (without ext.) . . . . . 30"  
Hole Diameter - Minimum . . . . . 14"  
                  Maximum. . . . . 4"  
Overall Height . . . . . 75"  
Ground Clearance. . . . . 4-1/2"  
Mechanical Tilting Adv.  
    Forward and Rearward. . . . . 20° Total  
    Side to Side . . . . . 35° Total  
Auger Drive and Clutch . . . . . Belt and PTO Shaft

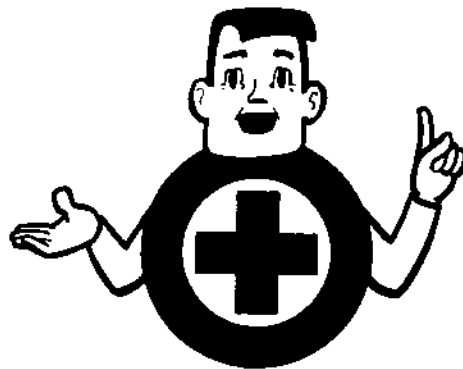
Hydraulic System

Pump Drive . . . . . Belt  
Pump Capacity . . . . . 2.5 GPM  
Pressure at 3600 RPM . . . . . 750 PSI  
Relief Valve . . . . . 1500 PSI  
Reservoir Capacity . . . . . 2 Qts.  
Oil Filter . . . . . Screen

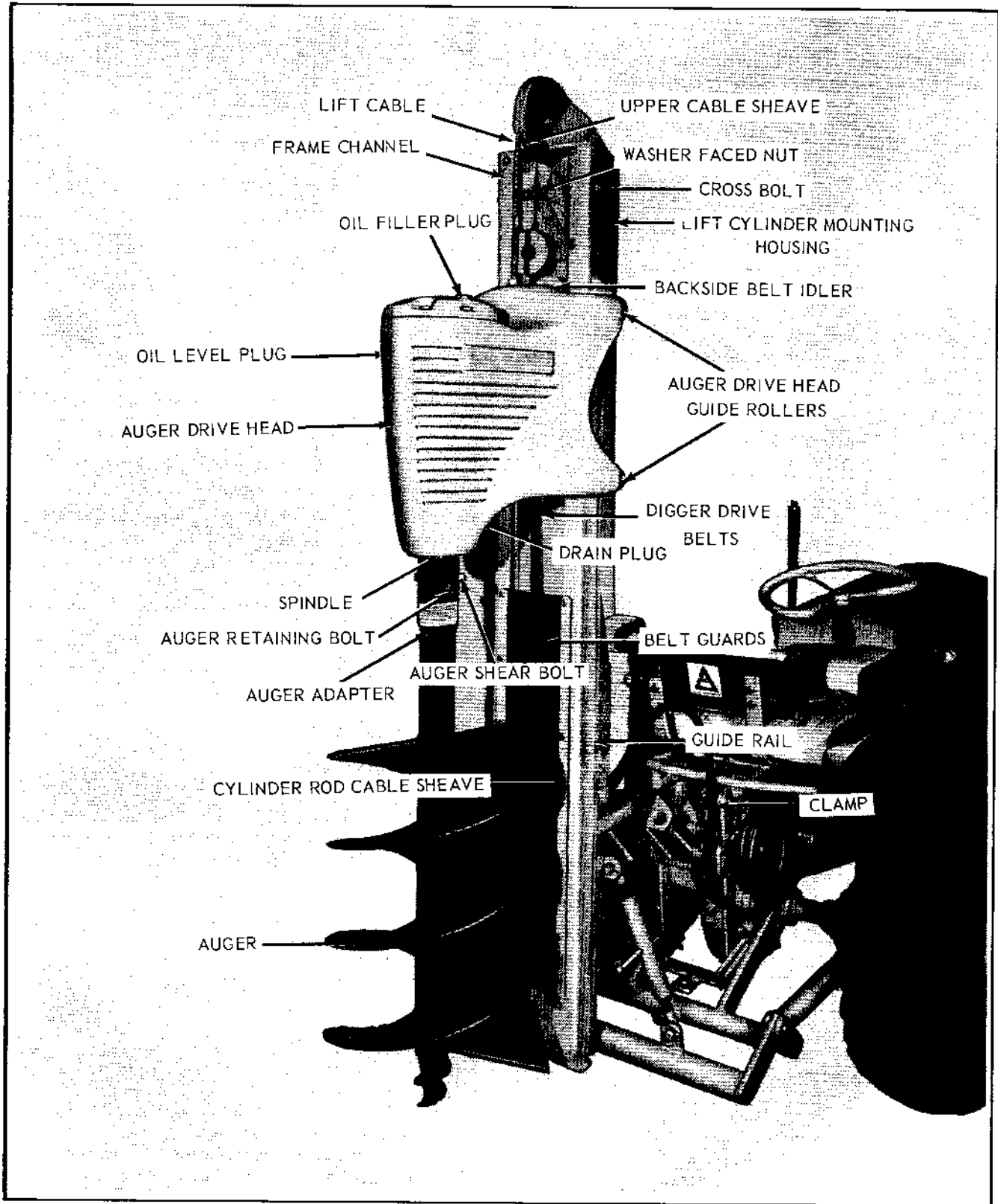


### SAFETY PRECAUTIONS

1. Do not oil or adjust digger while auger is turning.
2. Do not wear loose clothing while operating or working around machine.
3. Do not attempt to operate machine on steep hillsides.
4. Reduce speed while transporting over rough ground.
5. Keep weight box in place and filled with proper amount of weight at all times.
6. Keep hands and feet clear of auger while auger is turning.



GENERAL INFORMATION



The A-10 Earth Auger is intended to be mounted on the B Series tractor. Augers are from 4" to 14" in diameter. Digging depth is up to 30" deep.

Note that the R.H. side is determined by facing in the direction of forward travel. The serial number is located on the R.H. side of the auger mast.

## LUBRICATION

Daily or each 5 hours of operation:

1. Grease auger head guide rollers with automotive type pressure gun grease.
2. Lubricate valve control, clutch controls and pitch links with a few drops of fluid oil.
3. Check hydraulic system oil level. With auger drive head lowered fill reservoir to oil level with type "A" hydraulic transmission oil.

Weekly or each 50 hours of operation:

1. Grease universal joints with automotive type pressure gun grease. Be sure fittings are clean and pump grease in slowly to avoid damaging seals.
2. Check oil level in auger drive head. Fill to level of plug on rear of housing with SAE 90 or 140 extreme pressure gear lubricant.

Yearly or each 500 hours of operation:

1. Drain, flush and refill hydraulic system with type "A" hydraulic transmission oil.
2. Drain, flush and refill auger drive head with SAE 90 or 140 extreme pressure gear lubricant.
3. Lubricate lift cable sheaves with several drops of light oil.

General:

1. All external drive line bearings are sealed and lubricated for life.
2. Each time auger is installed or after several shear bolts have failed, remove auger, clean spindle and adapter and lubricate with automotive type pressure gun grease.

## MAINTENANCE

General:

1. Check entire machine daily for loose bolts, loose, frayed or broken belts and hydraulic system leaks.
2. Check auger daily for loose, worn or broken cutting edges and point. Worn edges or a slightly rounded point can seriously affect auger penetration.

3. The guard assembly at the bottom of the frame channel is intentionally made so that it does not completely close the bottom of the frame channel. Periodically this guard should be checked to be sure that dirt and other objects that may fall into the channel from above can drop out past the guard.

**Belts:** Belts must be kept at the proper tension. New belts should be checked and if necessary readjusted several times during the first few hours of operation.

**Digger Drive Belts:** These are matched belts and must be replaced in sets. When properly adjusted a force of 10 lbs. applied to both belts on the slack, or L.H. side (when facing toward the front of the tractor) at the top of the rubber belt guards will deflect them about 1/2". To adjust, loosen jam nut securing the washer faced nut on the cross bolt at the top of the frame channel. Adjust the washer faced nut toward the right to increase or left to decrease belt tension. When proper adjustment is obtained, tighten jam nut.

**PTO Drive Belts:** These are matched belts and must be replaced only in sets. When properly adjusted, a force of 10 lbs. applied half way between the sheaves will deflect both belts about 1/4". To adjust, loosen nuts on the bolt extensions under the tractor engine. Screw the top nuts down evenly to increase and upward to decrease tension. When proper adjustment is obtained, tighten bottom nuts.

**Pump Drive Belt:** When properly adjusted, a force of 5 lbs. applied halfway between the two sheaves will deflect the belt about 1/4". To adjust, loosen the four bolts securing pump to the pump bracket and move the pump outward to increase and inward to decrease belt tension. Tighten bolts when adjustment is complete.

**Auger Drive Head Guide Rollers:** Guide rollers should be set so that auger drive head travels the entire length of guide rails without binding or excessive looseness and auger is parallel to frame channel. This adjustment is obtained in the following way: With auger removed and rollers and rails clean, slowly raise and lower head until a point is reached where clearance between the rollers and outer edges of the rails seems to be minimum. Individually loosen the guide roller mounting bolts about 1/4 turn and turn the eccentric bushings as required to decrease or increase clearance between the roller and the rail to "0" to 1/32". Again raise the lower head to check for proper clearance. With

auger installed check for alignment between auger and frame channel. This can be adjusted by loosening either the top or bottom pair of guide roller bolts and shifting the top or bottom pair of rollers an equal amount to the right or left. When adjustments are completed tighten guide roller bolts securely to maintain adjustment.

**Lift Cable:** The lift cable should be adjusted so that the upper auger head guide rollers are within 1/8" of the stops at top of guide rails when auger is fully raised. This adjustment is obtained by loosening the nuts securing cable end to the auger drive head housing and screwing them up or down on the cable end. Running them up on the cable end will raise auger head. Running them down will lower head. Tighten top nut securely when adjustment is completed.

**Lift Cable Replacement:** Remove auger and lower auger head to its lowest position. Disconnect hydraulic hose at bottom of lift cylinder mounting housing and plug and cap union and hose. Disconnect lift cable at top of auger head. Remove bolts at top and bottom of cylinder mount and remove cylinder mount, cylinder and lift cable.

Remove upper cable sheave. Disconnect hydraulic line at lift cylinder port and cover both openings. Remove snap ring immediately below port in lift cylinder and slide lift cylinder downward until upper end of cylinder passes through upper bulkhead. Remove cylinder rod cable sheave and clevis from cylinder rod and sheave from clevis.

Cylinder can now be removed from cylinder mount freeing the anchored end of lift cable.

To install new cable, reverse the above operations.

**Auger Drive Head:** The auger drive gear box should require little maintenance however, both pinion and spindle should be checked for looseness each few hundred hours of operation. Pinion bearings can be tightened by removing gasket shims from behind the pinion cap. Both thick (.007) and thin (.005) shims are used and adjustment should be made by removing first one thin and then one thick shim. Further adjust-

ment can be made by removing more thick shims and perhaps adding one thin shim for fine adjustment. Bearings should be adjusted for a zero end play to slight preload condition.

Spindle bearings are adjusted in the same way as the pinion bearings by removing shims from under the cover. When cover is removed upper spindle bearing should be packed with automotive pressure gun grease or fiber wheel bearing grease. Gear backlash is controlled during manufacture and no further adjustment is required.

**Cylinder Service:** Should it be necessary to service the hydraulic cylinder seals proceed in the following way. Remove cylinder as described under "Lift Cable Replacement". Clamp cylinder in a pipe vise and remove the 1/8" pipe plug from top end. With the cylinder rod completely retracted, insert a 3/16" diameter x approximately 6" long rod or pin punch through the pipe plug hole. Turn cylinder rod slowly until the 3/16" pin engages a hole in the piston. This will lock the piston and allow the cylinder rod to be unscrewed and removed.

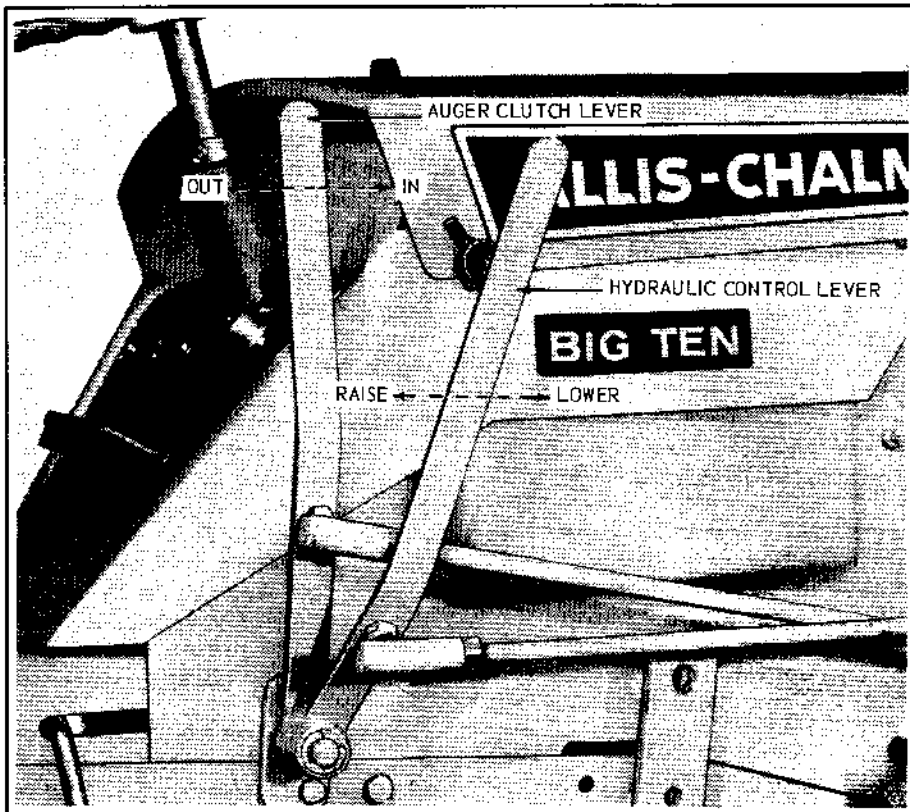
Clean cylinder and rod thoroughly before re-assembling. To reassemble reverse the steps used in disassembly. When installing the cylinder rod apply a light coating of clean hydraulic oil to rod and seals and use care when inserting the rod to avoid damage to the seals.

**Belts Guards:** If for any reason it is necessary to remove or replace the belt guards, note that the left hand guard is slightly wider than the right hand. They must not be interchanged.

**Auger Drive Head Removal:** To remove the auger drive head, remove auger, loosen drive belts and place head in a position about 6" below maximum height. Loosen the two setscrews securing the pinion drive sheave to the pinion shaft. Remove both L.H. or R.H. guide rollers. Head can now be pulled back away from frame channel leaving the pinion drive sheave in position. When clear of the channel, it can be lowered with the hydraulic lift control.

When reinstalling head be very careful to see that the pinion drive sheave is in perfect alignment with the backside belt idlers.

## OPERATION



1. Position tractor with auger point over center of desired hole location.
2. Lock tractor brakes.
3. Plumb auger or set at desired angle with pitch links.
4. Fully engage PTO clutch by pushing clutch (inner) lever forward until a distinct snap is felt and open throttle.
5. Lower auger to ground by pushing hydraulic control (outer) lever forward. If ground is hard or covered with trash it may be necessary to raise and lower auger several times to start hole.
6. As auger starts to penetrate, raise it to its maximum height to clean hole after each 6" to 10" of penetration or more often if soil is very wet and sticky. In many types of clay soils it is necessary to hold back against the auger screw suction action by moving the hydraulic control lever momentarily to either the "hold" or "raise" position. When drilling to maximum auger depth, do not allow an excessive amount of dirt to pile up between top of auger flight and drive head.
7. After desired depth has been reached, stop auger at the bottom of the hole raise it to its maximum height before moving tractor. This

procedure will usually provide the cleanest hole.

8. The bolt attaching auger to drive head acts as a shear pin to protect digger from excessive over-loads. It should always be replaced with a mild steel machine bolt of the same diameter as originally furnished. To prevent unnecessary failure of shear bolts, the nut must always be kept tight.

In addition to the shear bolt, auger is held on vertically by a retaining bolt which prevents the auger from falling off should the shear bolt fail. This retaining bolt must be kept tight. The inside of the auger adapter and the groove in the spindle should be coated liberally with grease to prevent them from binding or galling until the shear bolt is replaced.

Do not attempt to raise auger out of ground by use of retaining bolt alone. It is intended only to hold the auger in alignment until shear bolt is replaced.

If auger becomes lodged on an obstruction below ground, do not attempt to raise auger by hydraulic lift power alone until auger has been turned several revolutions in reverse. A bar may be used on the universal joint to easily turn the auger. After auger is freed, apply lift power and slowly rotate power drive to raise auger.

## EARTH AUGER INSTALLATION

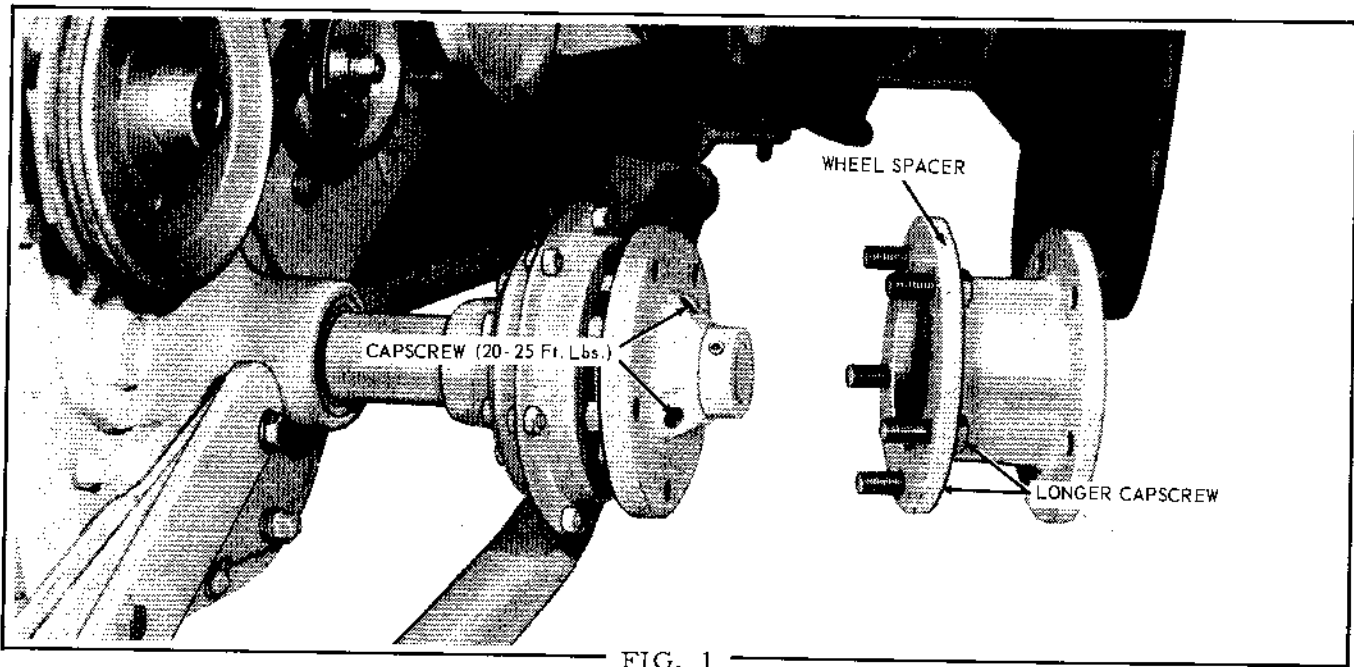


FIG. 1

### TRACTOR PREPARATION

Prepare tractor for earth drill installation by installing wheel spacers to extend rear wheels outward. Wheel spacers are installed by removing rear wheels and installing spacers to wheel hubs with longer cap screws provided in mounting kit.

Remove cap screws from tractor drive hub at R.H. side to facilitate spacer installation. Cap screws are replaced by socket head plugs and torqued to 20 to 25 ft. lbs. See Fig. 1.

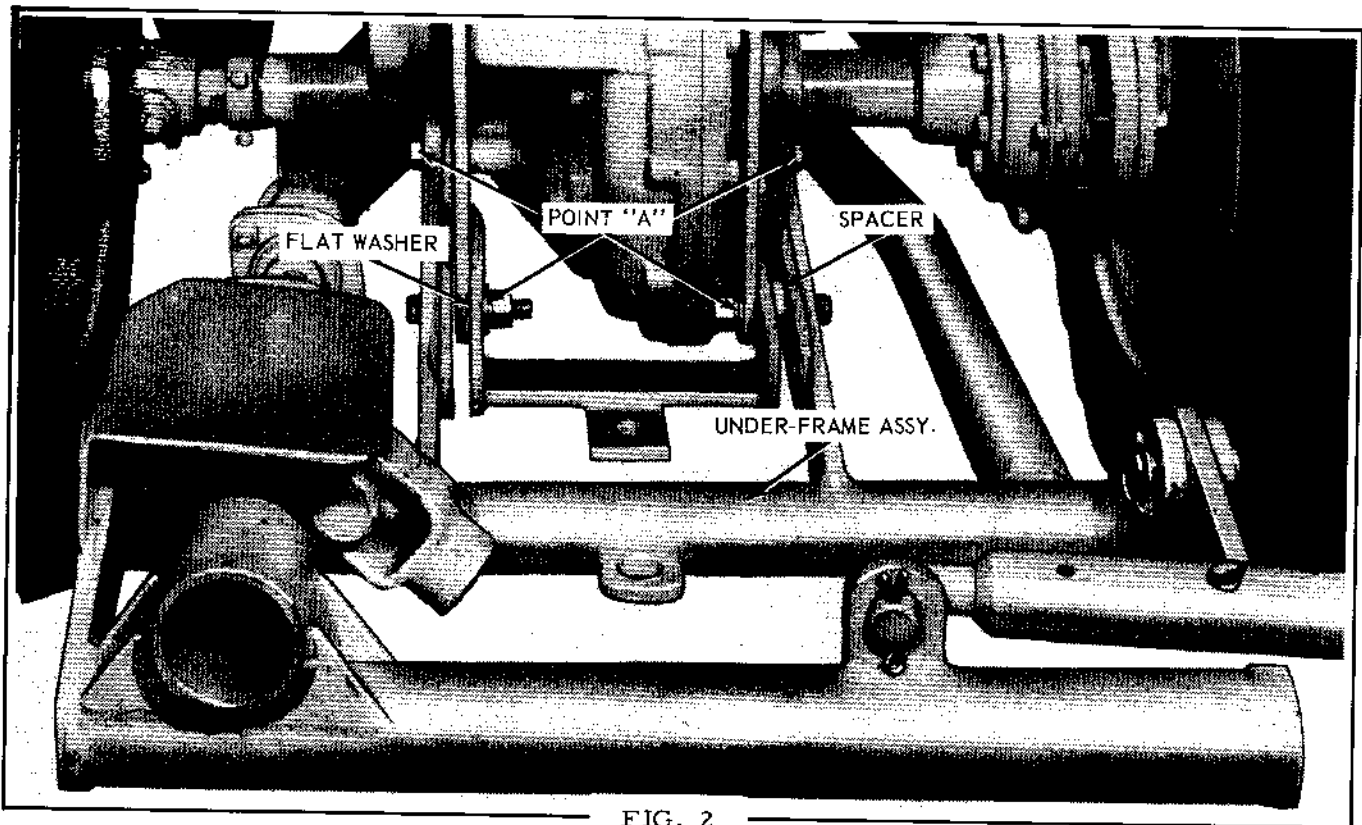


FIG. 2

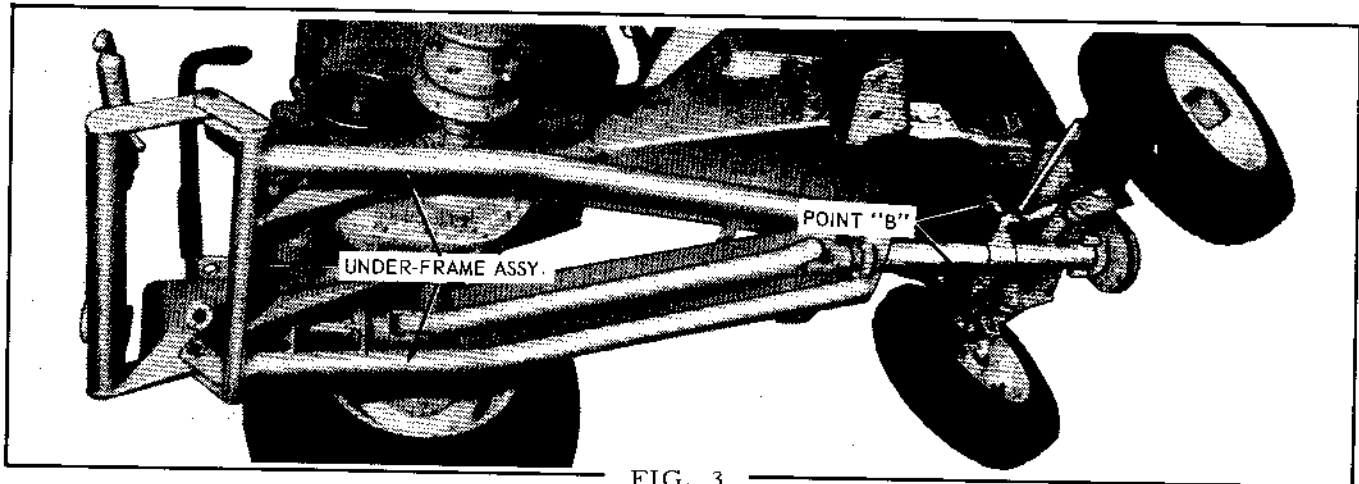


FIG. 3

### UNDER-FRAME INSTALLATION

Remove four capscrews at rear of tractor attaching drawbar bail to tractor final drive. See point "A", Fig. 2. Remove nuts from two capscrews under tractor frame. See point "B", Fig. 3.

Slide under-frame under tractor and attach to capscrews at front of tractor point "B", Fig. 3. Attach rear of mounting frame to rear of tractor at point "A" with longer capscrews, nuts and lockwashers as shown in Fig. 2. Note position of spacer and flat washers in Fig. 2.



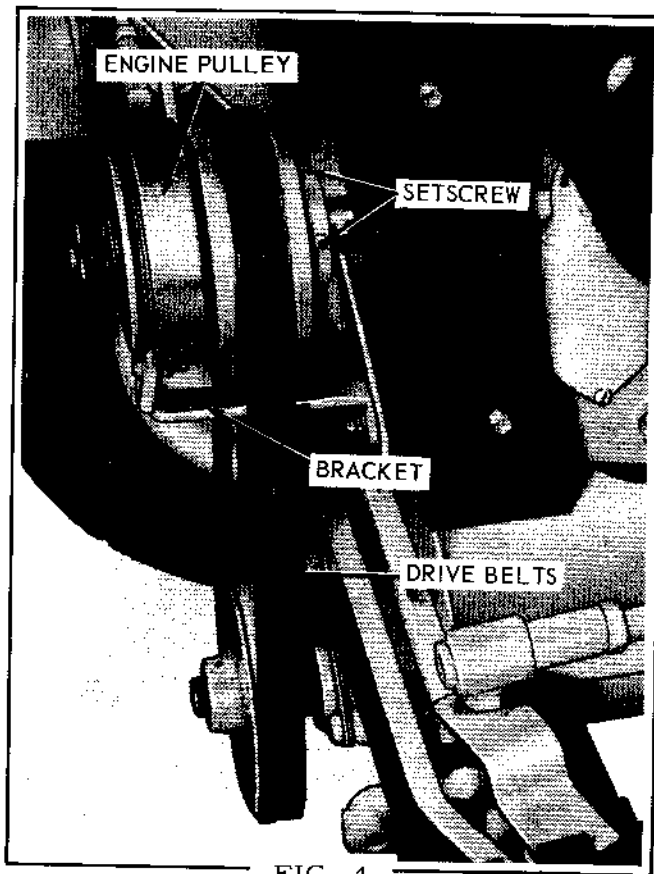


FIG. 4

#### ENGINE PULLEY INSTALLATION

Install engine pulley to engine crankshaft using square key. Slide pulley onto shaft in alignment with lower drive shaft. Drive belts may be installed as engine pulley is installed. Tighten allen head setscrews in engine pulley securely to hold pulley in position. See Fig. 4.

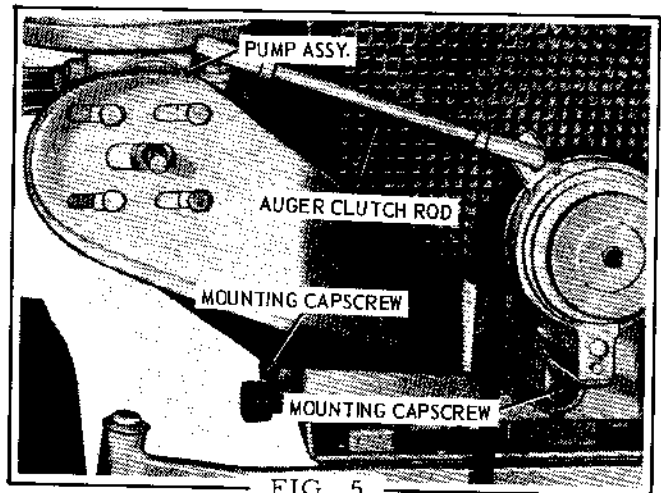


FIG. 5

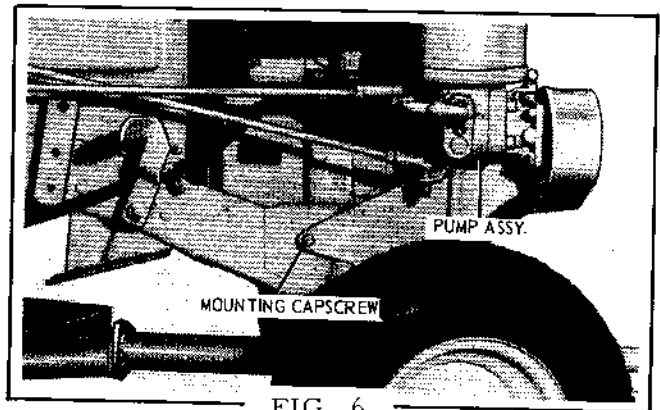


FIG. 6

#### HYDRAULIC PUMP INSTALLATION

Install hydraulic pump to front R.H. side of tractor. Pump will mount on three cap screws as shown in Figs. 5 and 6. Longer cap screws are provided in mounting kit.

Attach auger clutch rod to clutch on engine drive pulley.

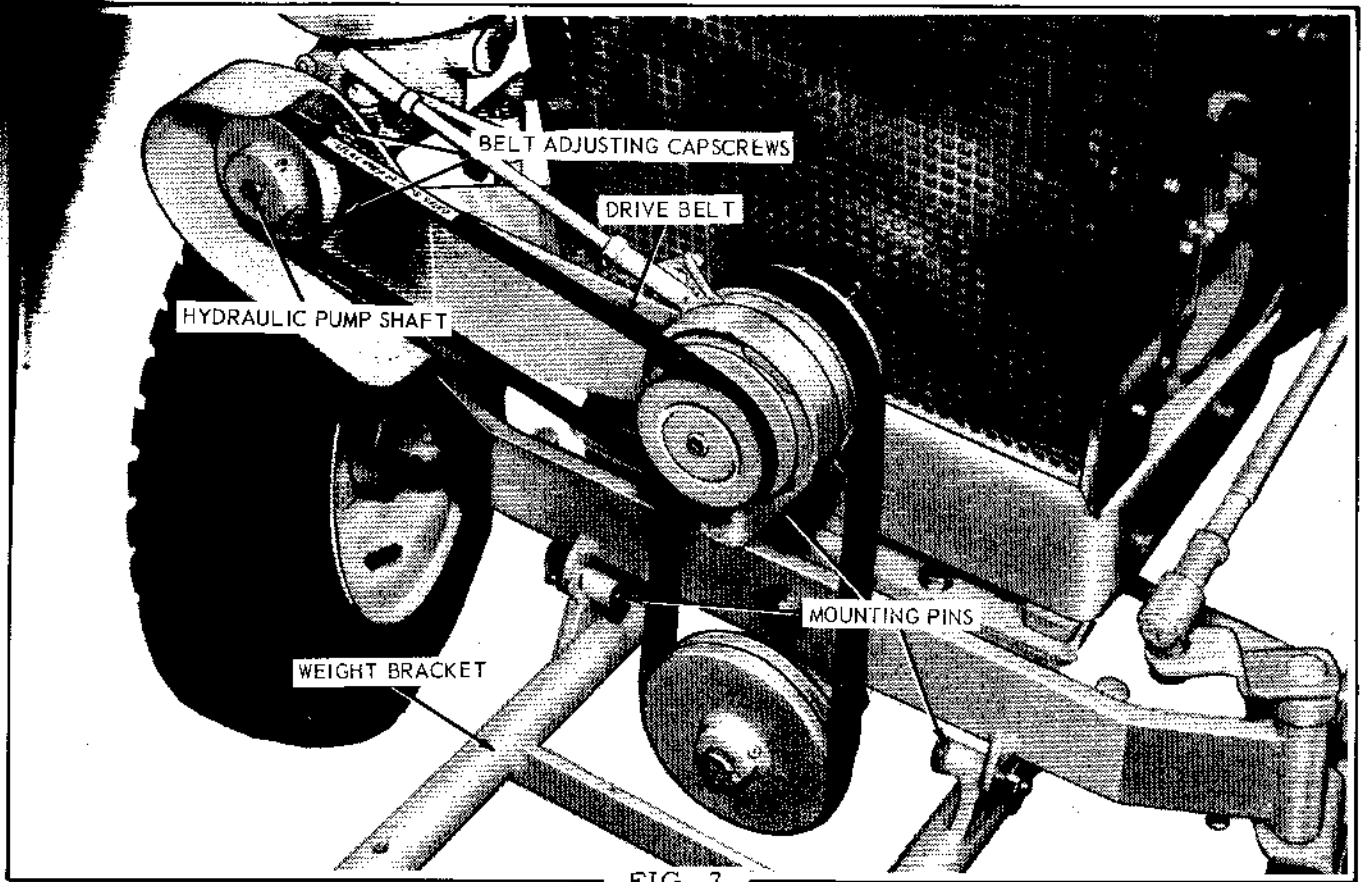


FIG. 7

HYDRAULIC SYSTEM DRIVE BELT

Install hydraulic system drive belt as shown in Fig. 7. Adjust belt tension by moving pump assembly on mounting bracket. See adjusting capscrews, Fig. 7. Check belt alignment being sure pulleys are in line on pump and engine pulley. Make adjustment by moving pulley on

hydraulic pump shaft.

WEIGHT BRACKET INSTALLATION

Install weight bracket to front axle of tractor using four pins and locking pins provided in mounting package. See Fig. 7.

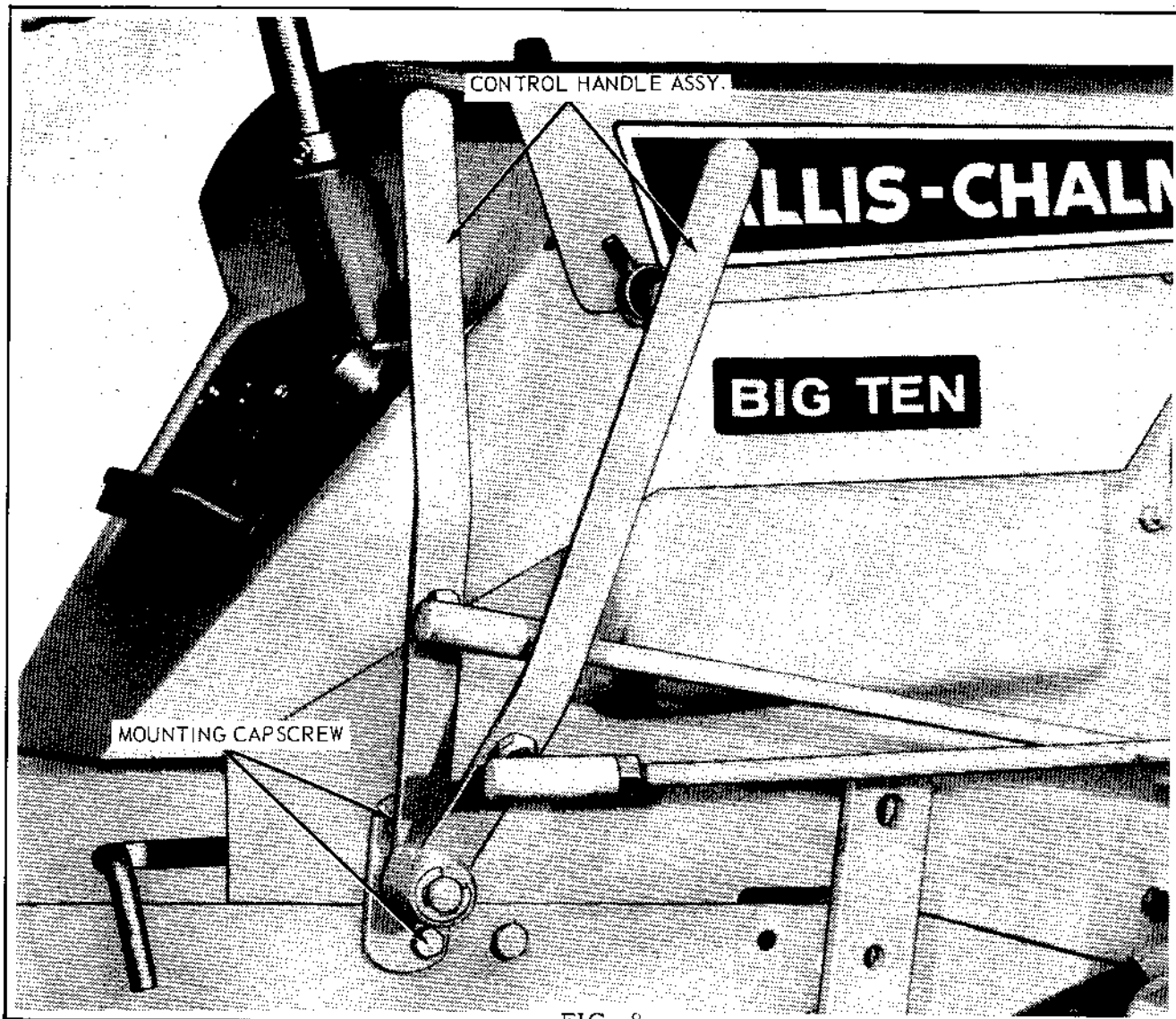


FIG. 8

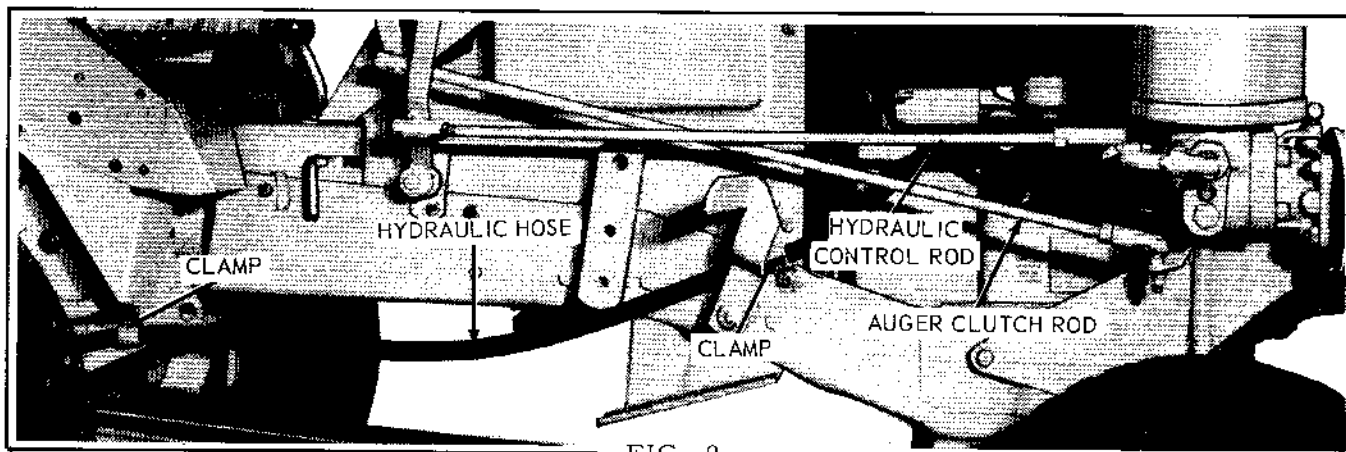


FIG. 9

### CONTROL INSTALLATION

Install control handles to R.H. side of tractor side panel as shown. Use two capscrews removed from tractor at this location.

Install control lever rods to pump lever assembly and clutch lever assembly. Rod length is adjustable to position handles for operators comfort. See Fig. 9.

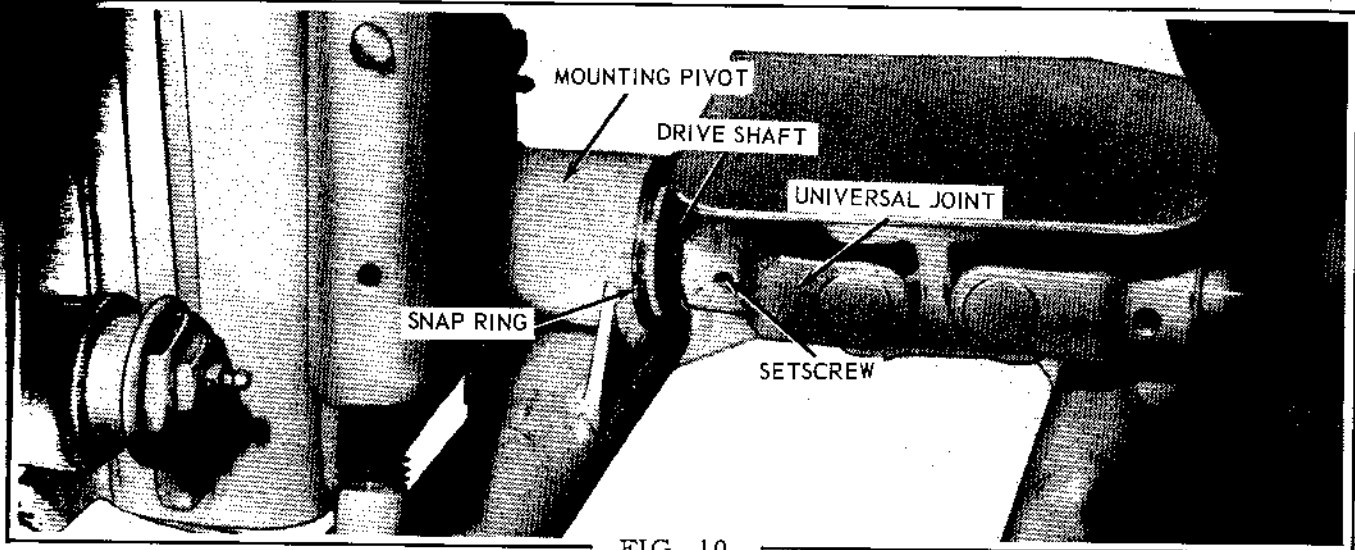


FIG. 10

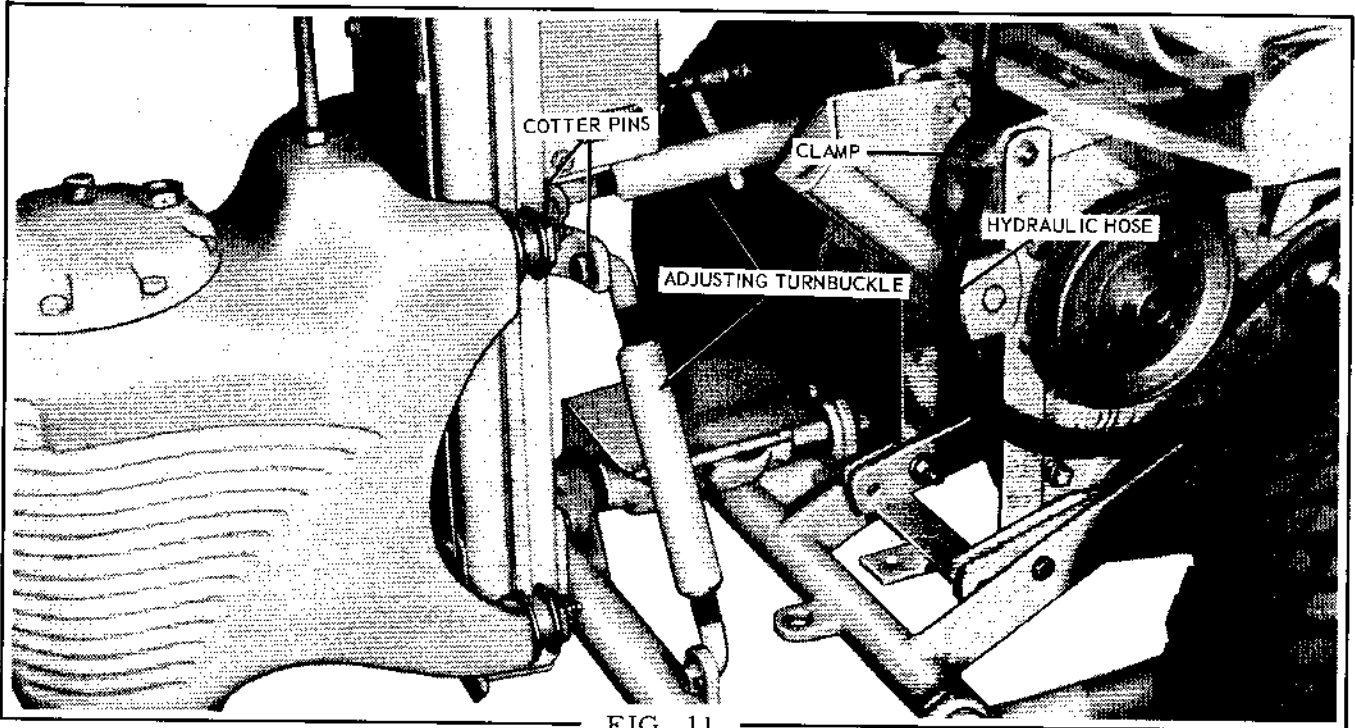


FIG. 11

### AUGER MAST INSTALLATION

Support mast assembly with hoist and position mounting collar into mounting pivot. Slip snap ring over drive shaft before drive shaft enters universal joint. Slide mounting collar fully into pivot and secure with snap ring. Tighten set-

screw securely fastening universal joint to drive shaft. See Fig. 10.

Install adjusting turnbuckles to support mast assembly as shown in Fig. 11. Adjust turnbuckles to position mast straight for digging.

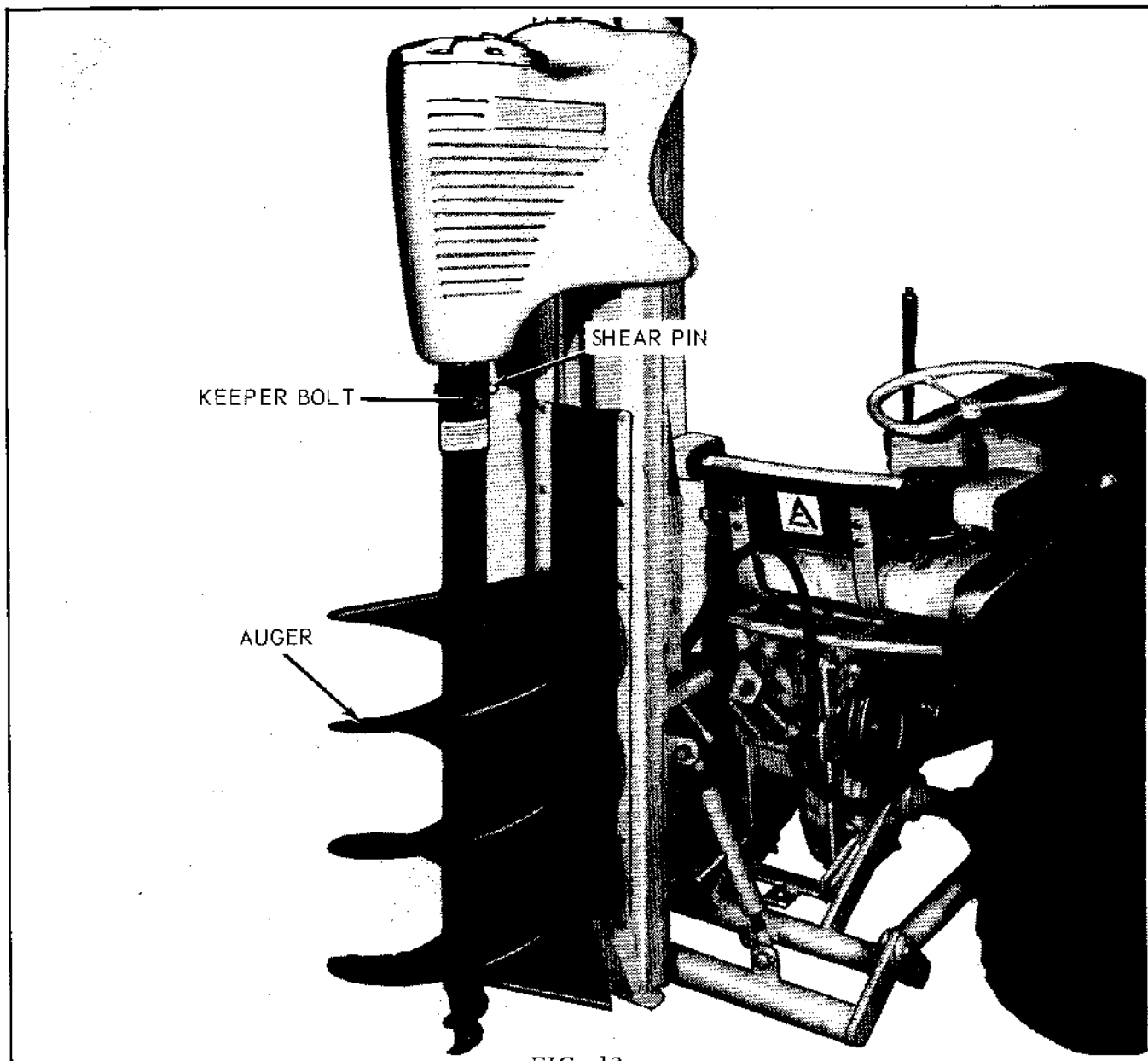


FIG. 12

### HYDRAULIC SYSTEM

Install hydraulic system hose between auger cylinder and pump. Clamp hose as shown in Figs. 9 and 10.

Fill hydraulic reservoir with recommended oil.

Start tractor engine and operate auger drive gear box up and down to bleed air from the hydraulic system. Refill reservoir to proper level.

Position gear box high enough to install auger. Install keeper bolt and shear pin as shown in Fig. 12.