GRAVELY ELECTRIC STARTER

INSTALLATION INSTRUCTIONS:

1. ASSEMBLY OF MOTOR MOUNTING PLATE TO TRACTOR

(a) Remove Fan Drive Pulley from Tractor. (This is to be returned to the factory by Dealer.)

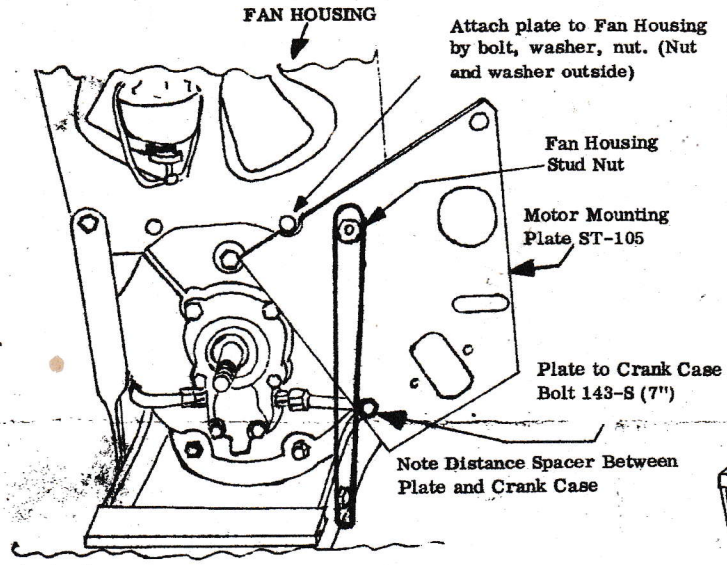
(b) See Sketch A. Remove (as you face rear of tractor) right hand Fan Housing Stud Nut, and Crankcase Bolt as shown on Sketch.

(c) Fit mounting plate as shown. A Distance Spacer, (Part Number L-514) is used between Motor Mounting Plate and Crankcase. The Plate and Spacer are attached to the tractor by a special long Crankcase Bolt furnished. (Part Number 143-S).

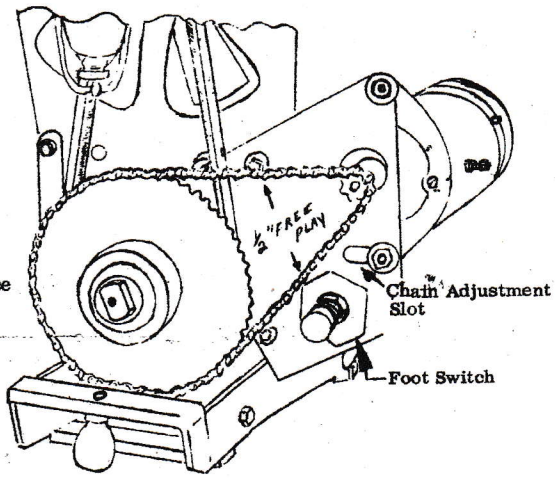
(d) Insert the 3/8 x 7/8" Hex Head Bolt (Part Number 110-S) through the Fan Housing at point shown on sketch. Use a 3/8" Flat Washer (Part Number 403-W) on the outside of the plate, secure with the Motor Mounting Plate Bolt Nut (Part Number 205-N).

(e) Replace Fan Housing Stud Nut. (If Tractor is equipped with 3/8" fan housing bracket stud, this should be changed to bracket with 1/2" stud. Ream hole in plate if necessary to fit 1/2" Stud.)

(f) With Rear Hitch Attached To Tractor: In step (a), remove the top right hand (facing tractor from rear) Fan Housing Stud Nut and loosen the bottom bolt and nut which attaches the Rear Hitch Brace to the Rear Hitch. Move the loosened Brace down out of the way and proceed as above through (e). Tighten bolt and nut attaching brace to rear hitch.



A: ATTACHING MOTOR PLATE



SKETCH B

2. ASSEMBLY OF MOTOR CLUTCH AND SPROCKET

(a) The Motor has the small motor Sprocket attached. Insert motor assembly into Motor Mounting Plate as shown on Sketch B.

(b) Mount with the heads of the Motor Mounting Bolts on the Motor side of the Bracket, for easy assembly. Washers must be under Nuts. Leave both Nuts loose for adjustment.

(c) Be sure tapered bore in Starter Fan Drive Pulley is clean, with all paint and foreign matter removed. Press Fan Pulley on Shaft. Put on Fan Belt.

(d) Screw 60 Tooth Sprocket and Clutch Assembly in place on shaft with Sprocket to tractor.

(e) Screw Sprocket and Clutch Assembly up to Fan Drive Pulley, pulling up snug, NOT tight with wrench on "flats". Insert 174-S Bolt and pull up TIGHT with wrench. This will prevent "jamming" of Starter Nut against Fan Pulley and subsequent difficulty if removal is required.

(f) Put the Chain on the Motor Sprocket and the 60 Tooth Sprocket. Adjust by swinging Motor Assembly right or left. Chain should have 1/2 inch free play in center. After adjustment is made, tighten Motor Mounting Nuts.

(g) Insert Starter Switch into Bracket in the rectangular Slot, from the Rear of the Tractor. Secure with Switch Mounting Bolts and Nuts.

(h) LUBRICATION: DO NOT attempt to lubricate the Starter Clutch Assembly. It is life-lubricated at the factory. Additional lubrication will only cause the mechanism to malfunction.

3. MOUNTING BATTERY BRACKET, HOLD-DOWN TOOLBOX

(a) First remove the bolts holding the hood and the handles to the Advance Casting.

(b) Remove the top two bolts in the Advance Casting.

(c) Spacing washers (Size 5/16") must be used between Bracket and Advance Casting to insure a solid holding action between Bracket and Casting. You will find it easier to position the Bracket by putting the washers in place and holding them in the recess (Spot Facing) over the Bolt Holes with Scotch Tape or Masking Tape.

(d) On the Battery Bracket is a bent-down portion on the bottom, rectangular in shape, with two holes drilled in it. Insert the Battery Bracket Mounting Bolts (Part No. 144-S, size 4/6" x 3-1/4") into the holes. Place your hand through the cut-out hole to hold these bolts in place, and set the bracket in position. Tighten the Mounting Bolts finger tight.

(3)

(e) Attach Hood to Battery Mounting Bracket by the small bolts, nuts and washers.

(f) Attach Handles, running the Handle Bolts through the large holes in the Battery Mounting Bracket.

(g) Tighten all bolts tight.

Mounting Battery and Toolbox Hold-Down

(a) Use 12 VOLT Delco Remy #454 or equivalent - Size 9" x 6 27/32".

(b) Set Battery in place, positive side on the same side of the Tractor as the Starting Motor.

(c) Attach cables. Cable from negative pole is attached to the top mounting flange of the starter engine. Positive cable is attached at the bottom of the foot switch. Completion of the circuit is achieved when cable ST 115 is connected from the top of the foot switch to the connection stud on the starter motor. When connecting cable to mounting flange, insure best grounding by filing excess paint away from flange.

(d) Set Toolbox in place, with Slots facing the rear of the Tractor.

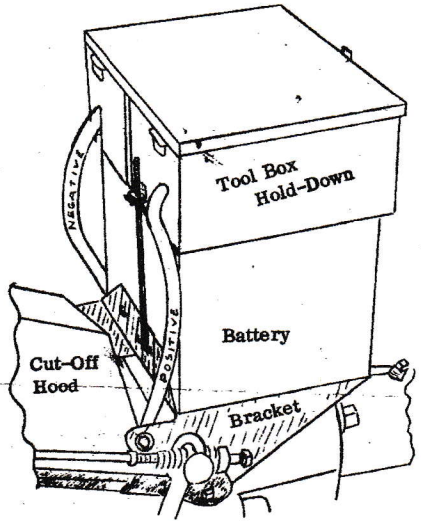
(e) Place long L shaped Hold-down Bolts in place, hooking the short leg of the L in the punched out holders in the Battery Bracket. One on front and one on the back of the Battery.

(f) Tighten Hold-down Bolts until Toolbox and Battery are firm.

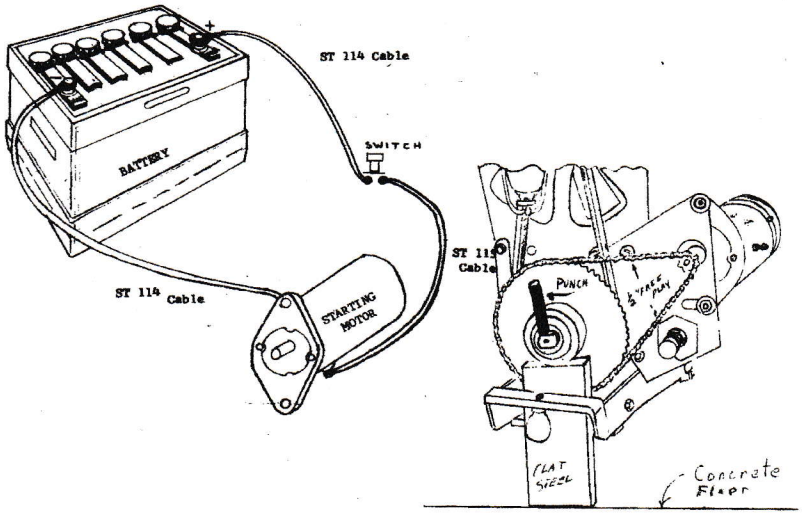
(g) ADJUSTING BATTERY FOR VISIBILITY

Normally visibility will not be affected greatly by the Battery position. However, when using the Rotary Plow and in some cases the Cultivator, view will be obstructed on close work.

The Battery may be shifted to the left, (as you face rear of tractor) by moving the hold down bolts and the Battery to the slots closest to the left side of the Bracket. This will give an unobstructed view of Rotary Plow operation, and will help in close cultivation.



SKETCH C



SKETCH D

BEST WAY TO REMOVE STARTER NUT (Sketch D)

After starters have been installed for some time, the Starter Nut (ST-118 Drive Nut) is sometimes difficult to remove, because of the continuous wedging action of the starter.

The best way to remove the Starter Nut is to obtain a piece of steel, the correct length to reach from the floor to the bottom of the Sprocket and Clutch Shell (ST-100 & 117).

The steel should be placed on a solid foundation...preferably a concrete floor...and should be long enough so that when put in position the Sprocket and Clutch Shell are seated firmly on the steel.

Then, using a soft steel punch and a medium heavy hammer, strike the Starter Nut on the flat side and downward, several short, sharp strikes. This will, in most cases, "break" the nut loose, and the assembly can then be removed by a wrench, or by hand.

The purpose of the steel is to give solid support to the assembly while you are "breaking" the nut loose. This prevents bending of the shaft, or other damage to the internal assembly of the crankcase.

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