



INSTRUCTIONS FOR INSTALLING
BM16053 HYDRAULIC LIFT
ON 210, 212, 214 AND 216 TRACTORS

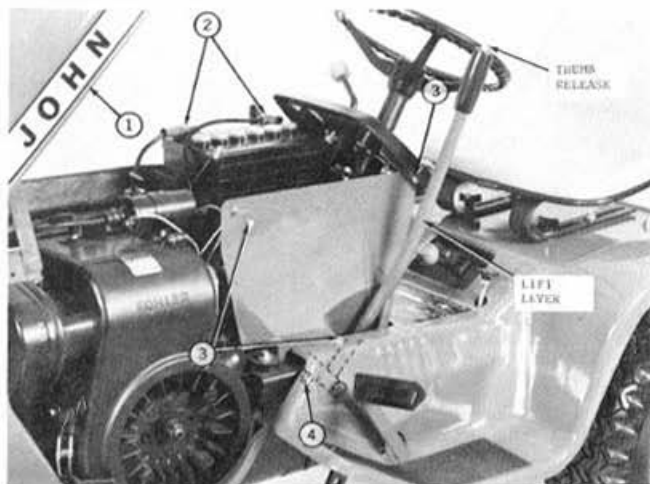


BM16053, M83199

M83199 Instructions

Park tractor on a level surface. Depress brake pedal and set parking brake. Place transmission shift lever in "NEUTRAL" position. Disconnect spark plug wire and remove ignition key.

Preparing Tractor



1. Raise hood and remove left-hand engine side panel as shown in the tractor operator's manual.
2. Disconnect battery cables and remove battery as shown in the tractor operator's manual.
NOTE: Remove battery box to facilitate assembly.
3. Remove three cap screws and hex. nut from left-hand console panel. Remove console panel.
4. Loosen set screw securing manual lift lever in place. Depress thumb release, twist lever 90° and remove it.

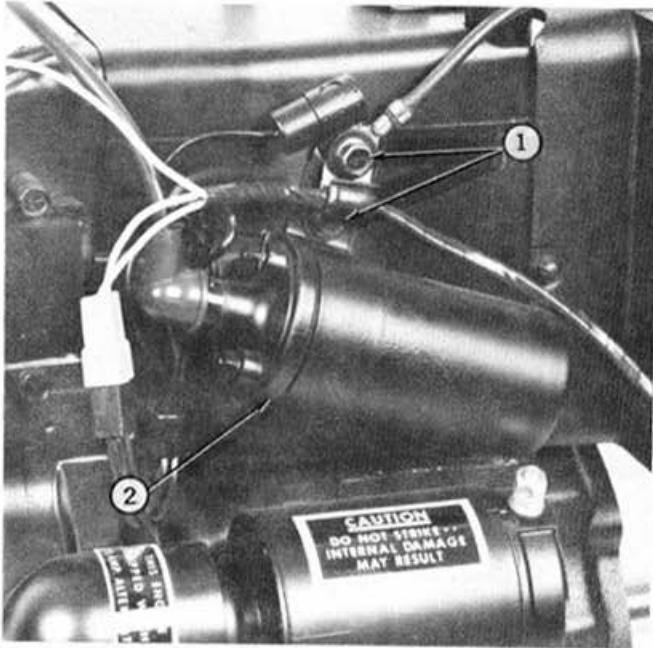
Remove Air Intake Screen



1. On tractors equipped with air intake screen, remove and discard the air intake screen.

Relocate Engine Coil

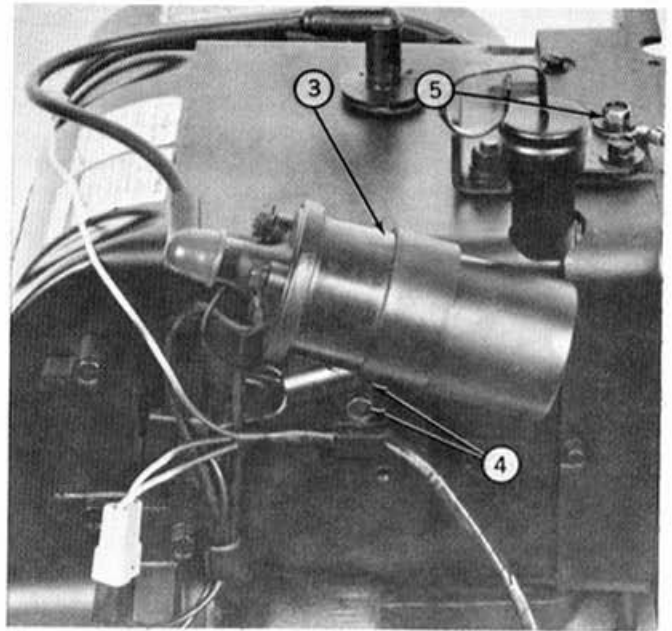
NOTE: If tractor has engine coil located in position shown at left below, relocate it to position shown at right below.



1. Remove the two cap screws securing coil bracket, J-clamp, condenser and negative (-) battery cable to engine shroud.

NOTE: It is not necessary to disconnect electrical wires from coil.

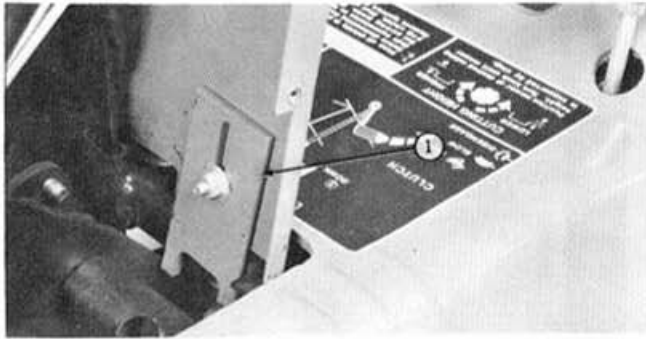
2. Remove coil from bracket.



3. Position coil in bracket as shown above.
4. Bolt coil bracket, J-clamp and condenser to engine shroud with two cap screws.
5. Relocate negative (-) battery cable and attach to engine removal bracket as shown.

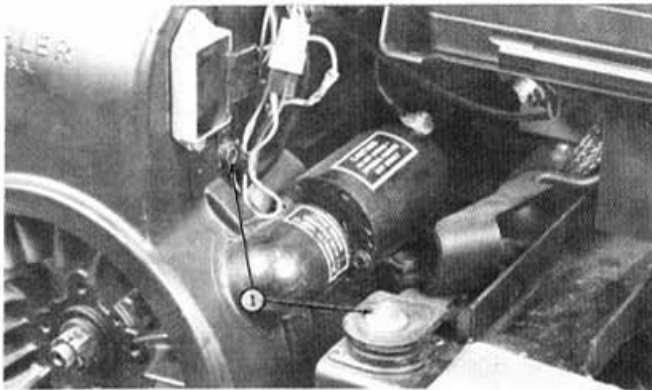
INSTALL HYDRAULIC LIFT KIT

Installing Hydraulic Hose Guide



1. Bolt hydraulic hose guide to console with 1/4 x 3/4-inch carriage bolt, .250 x .750 x .060-inch flat washer and hex. nut. Do not tighten bolt.

Installing Hydraulic Lift Pump

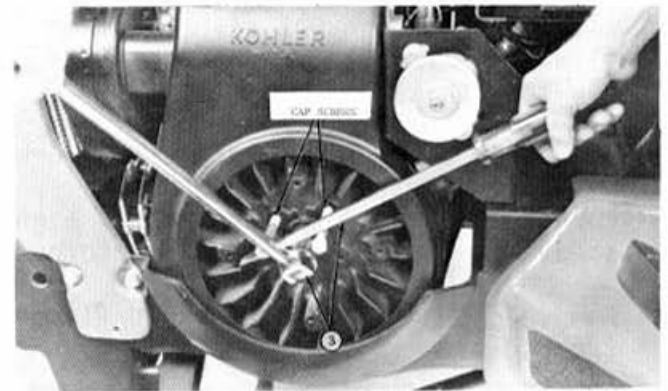
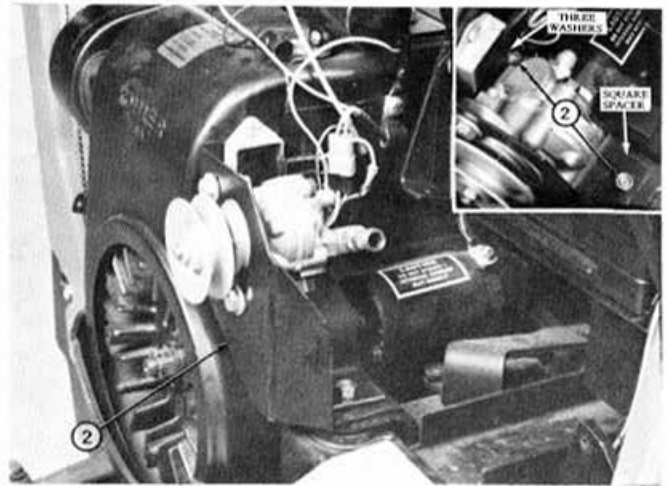


1. Remove and discard wiring clamp bolt and rear left-hand engine motor mount bolt.

2. Bolt hydraulic pump and support assembly to tractor engine and rear motor mount.

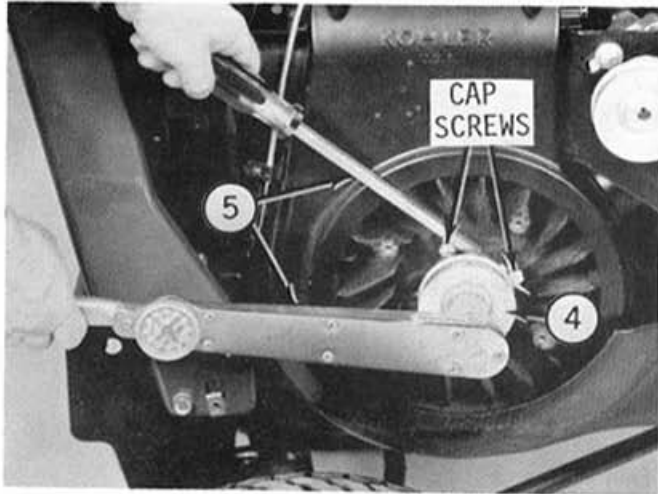
Place three .281 x .625 x .060-inch flat washers between front of pump support and engine and secure in place with a .281 x .625 x .060-inch flat washer and 1/4 x 1-inch cap screw. Place square spacer over rear slot of support and bolt in place with a 3/8 x 2-inch cap screw and hex. nut.

NOTE: Leave bolts loose for later alignment of flywheel drive sheave and hydraulic pump driven sheave.



Obtain two 5/16" x 1-1/4" cap screws from stock.

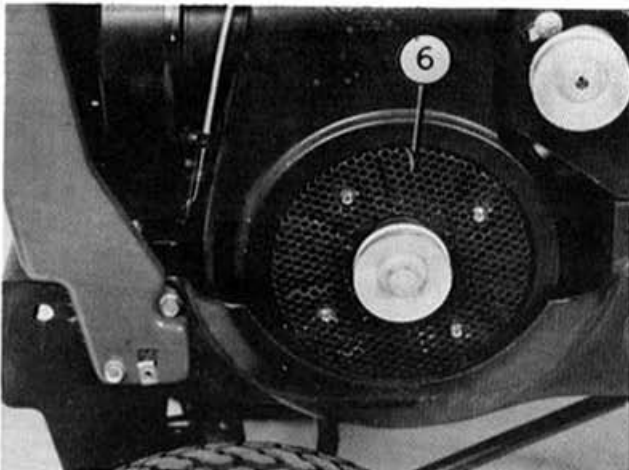
3. Thread the cap screws five or six turns into the two holes in flywheel. Place a large screw driver between cap screws to keep flywheel from turning. Remove the flywheel hex. lock nut with a socket and breaker wrench.



4. Place .656 x 1.25 x .120 wrought washer from bag of parts on crankshaft with existing wrought washer. Turn flywheel drive sheave onto threaded flywheel shaft hand tight.

5. Place a large screwdriver between cap screws to keep flywheel from turning. Using a torque wrench, tighten sheave to 65 ft-lbs. (74.6 Nm) torque.

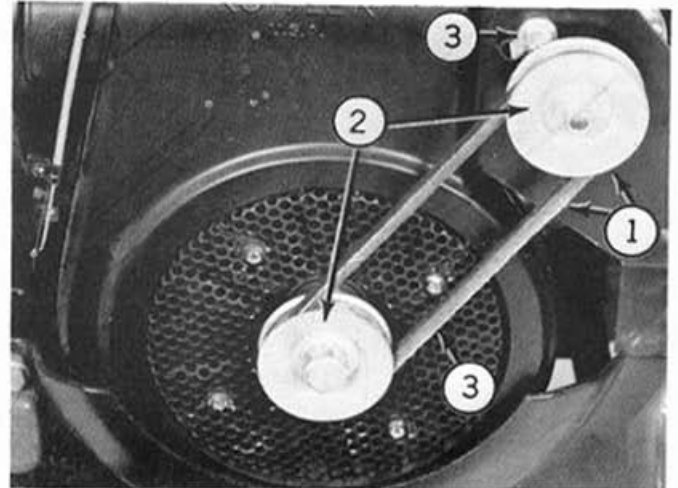
Remove cap screws used to keep flywheel from turning.



6. Install new air intake screen on tractors serial no. 70,001 and up only.

NOTE: Do not install screen on tractors serial no. 30,001-70,000.

Install Drive Belt



1. Remove hydraulic pump sheave. Slip drive belt over both sheaves and re-install hydraulic pump sheave. Tighten nut securing hydraulic pump sheave to 23 ft-lbs. torque.

2. Visually check flywheel drive and hydraulic pump driven sheave alignment.

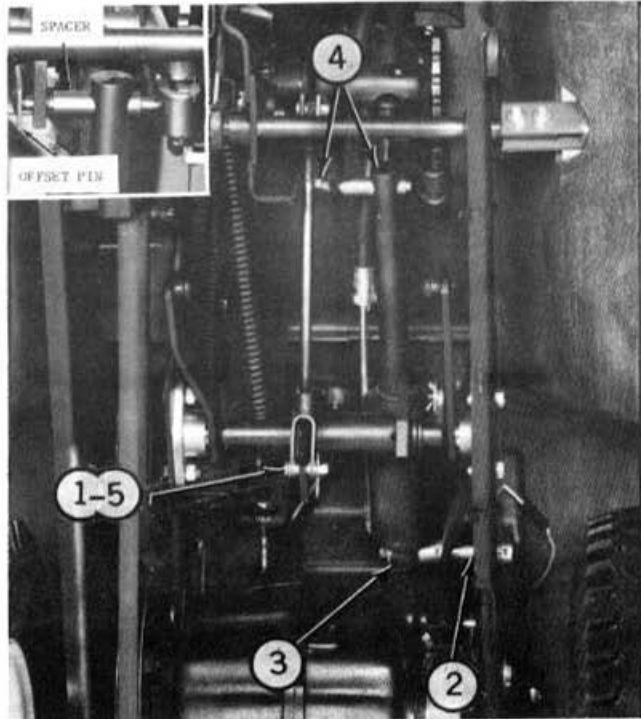
NOTE: Rotate flywheel by hand and check to be sure drive belt does not contact screen or hardware. Also, after installing hydraulic lift panel assembly as shown on page 5, install side panel and check to be sure pump sheave does not contact side panel when engine is cranked. If any parts contact belt or side panel, position pump bracket as necessary for clearance.

3. Align sheaves by loosening the hydraulic pump support attaching bolts (see step 2, page 3), and moving the pump support in or out. Tighten bolts after alignment is achieved.

The drive belt is properly tensioned when 1/2" deflection at the centerline of belt is observed.

To tighten the belt, loosen the two pump adjusting bolts and slide the pump upward equally in both slots. Tighten bolts after adjusting.

Installing Hydraulic Cylinder



1. Disconnect the secondary lift link at threaded yoke end.

2. Assemble hydraulic cylinder pivot pin through holes in support and tractor frame as shown. Secure cylinder pivot pin in place with a .125 x 1.25-inch cotter pin on outside and inside of frame.

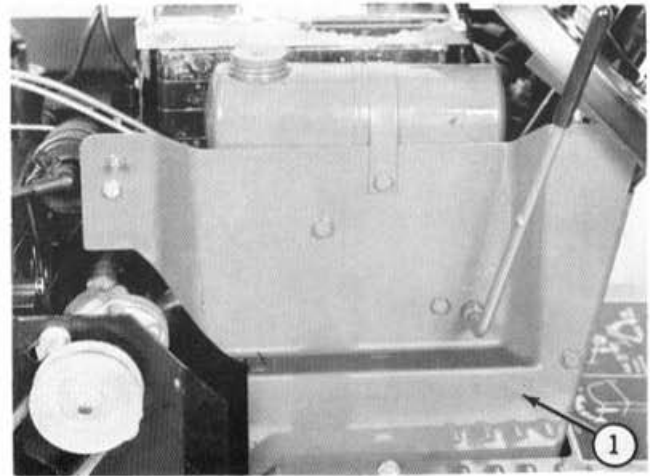
3. Install rear part of cylinder on pivot pin. Secure the cylinder to pivot pin with a .531 x .812 x .060-inch flat washer and .125 x 1.25-inch cotter pin.

4. Assemble spacer through hole in ram (operating end) of cylinder. Manually rotate primary lift rearward. Insert pin with offset strap through hole in primary lift arm and spacer into hole in quadrant. Secure pin in place by bolting offset strap part of pin to primary lift arm with a 5/16 x 7/8-inch cap screw, .060 x 11/32" x 11/16-inch flat washer and hex. nut.

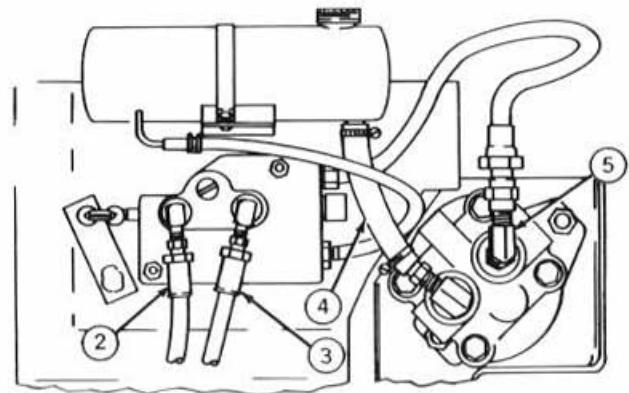
NOTE: To facilitate hookup of ram (operating end) of cylinder, remove cap plugs from end of hydraulic hoses. The ram can then be moved in or out of the cylinder for easier hookup. Be sure to keep dirt or foreign material out of hoses during assembly.

5. Re-connect secondary lift link.

Installing Hydraulic Lift Panel and Hoses



1. Bolt complete hydraulic panel assembly to console and frame with bolts previously removed with manual lift panel.



2. Attach shorter of two hydraulic cylinder hoses to rear control valve port.

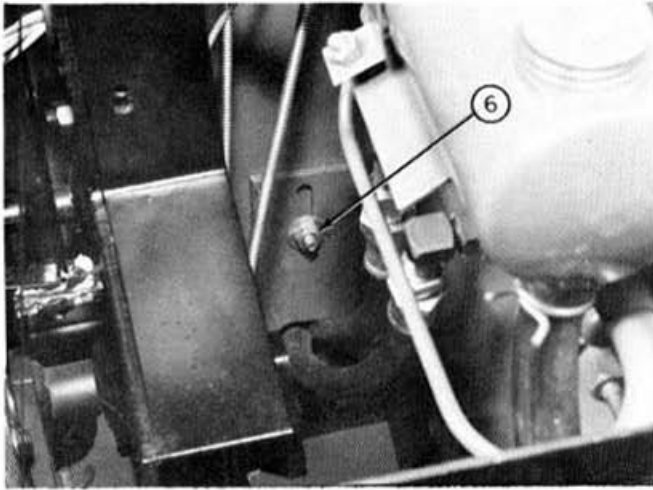
3. Attach longer hydraulic cylinder hose to front control valve port.

IMPORTANT: Tighten all hose connections.

4. Attach fluid supply hose to plastic hose barb fitting on pump with clamp.

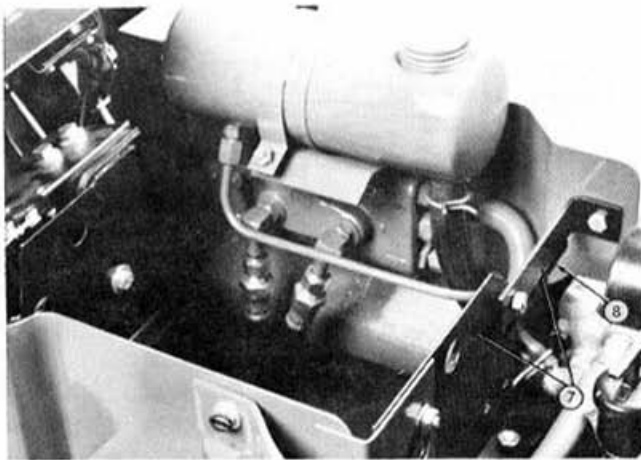
IMPORTANT: Be sure there is no kinks in supply hose. If necessary, loosen hex. nut on pump elbow fitting and align hose as shown above.

5. Connect pressure hose to 90° fitting on pump.



6. Position hydraulic hoses in hose guide slot. Push hose guide down and tighten hose guide nut.

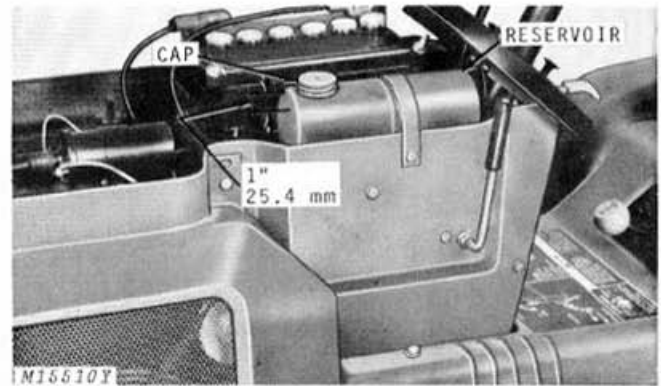
IMPORTANT: Check to be sure the hydraulic hoses are clear of parts.



7. Re-install battery box. Bolt L-shaped battery box support strap to hydraulic panel, as shown.

8. Install vinyl edging provided, on bottom of L-shaped strap. Secure in place with friction tape to prevent edging from coming off.

Checking Hydraulic Fluid Level



1. Remove hydraulic reservoir cap.

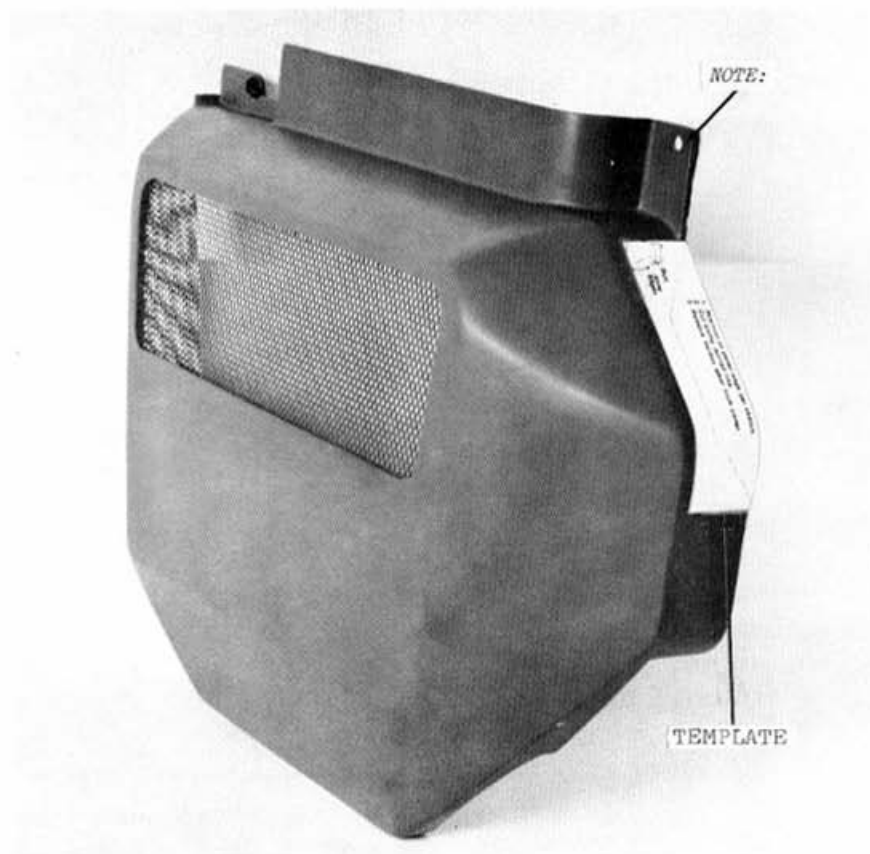
Fill the hydraulic reservoir to within 1-inch (25.4 mm) from top of reservoir (not cap) with John Deere All-Weather Hydrostatic Fluid or an equivalent type "F" automatic transmission fluid.

2. Re-install the battery as explained in the tractor operator's manual.

3. Start tractor engine and move the hydraulic control lever back and forth several times to activate the lift mechanism and fill the hydraulic lines and cylinder with fluid. Move hydraulic lever completely forward. Shut off tractor engine and recheck the hydraulic reservoir for an adequate supply of fluid.

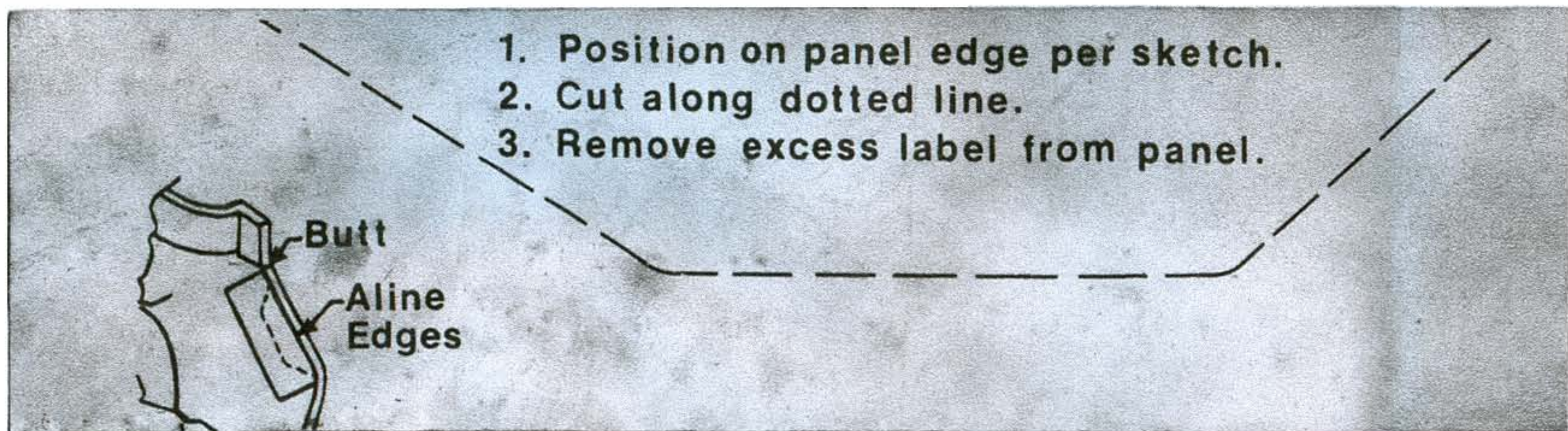
IMPORTANT: Hydraulic fluid level should be 1-inch (25.4 mm) from top of reservoir (not cap). Add fluid as required. Check to be sure all hydraulic hose connections are tight and not leaking.

Modifying Left-Hand Engine Side Panel



Remove adhesive backing from template provided. Place template on side panel in position shown above. Cut or saw-out part of side panel along dotted line on template. Remove burrs and sharp edges from edge of cut-out before installing panel. Touch-up scratched areas with PT60 green paint.

NOTE: Remove quik-lock fastener from top rear hole of side panel. Install side panel on tractor and secure top rear part of panel to hydraulic lever panel with 1/4-inch hex. nut and flat washer provided.



Template size - 6 3/8" x 1 3/4"