

ZANE'S Hydraulic JIG "THANG"

Remove the seat from the top of the hydraulic lift housing.

Remove the top link and the pin to the yoke on the draft sensing spring.

Remove the pins from the lift link to lift arms.

Remove the yoke from the end of the big draft sensing spring. It may be necessary to use heat to loosen the yoke because it is common for the yoke threads to become frozen to the shaft of the draft control. (Fig 1) Get it red hot all around the point where the threads are located. Use a small bar or tire tool or big screwdriver to loosen and remove the yoke when it decides to move with heat. Do not use excessive force if it does not turn on the shaft and come off. Allow it to cool and with a good soaking of penetrating oil then try to remove it while it is cold and if it still won't come off, heat it again until the yoke comes off. The yoke must be removed in order to inspect the anchor plate for wear patterns where the internal draft linkage rests against it and to achieve the right adjustment of the static spring tension for the draft control operation.



(Fig 1)

After the yoke is removed from the shaft remove the spring and the spring seat, etc from the rear of the lift housing. Remove the three bolts (Fig 2) that hold the spring seat from the rear of the housing and inspect the seat for wear patterns where the weight is carried by the link on the backside of the anchor plate. Make sure the plate is not concave or broken). If it is, it must be restored to a perfectly flat condition and the wear pattern indentations in the backside of the plate must be welded up so that it is perfectly flat.

Reinstall the spring seat anchor plate and bolts and replace the draft sensing spring.

Tighten the yoke on the end of the draft sensing rod at the end of the draft sensing spring until all the slack it removed and then turn it one more turn clockwise. This is contradictory to most manuals but will give a better adjustment point of beginning. The extra turn on the yoke will make a closer distance between the yoke end stop and the anchor end stop, which normally comes in contact when the draft spring is overly compressed. This will help prevent the bending of the internal draft sensing linkage. Over time these two points of contact become worn from impact between each other and the extra tightening will help to reduce the distance between them and still allow the draft to operate as it should.

Strike the end of the yoke with a hammer and then re-examine the slack in the spring to make sure that it has not become loosened. If it has, then retighten the yoke until all the slack is all out



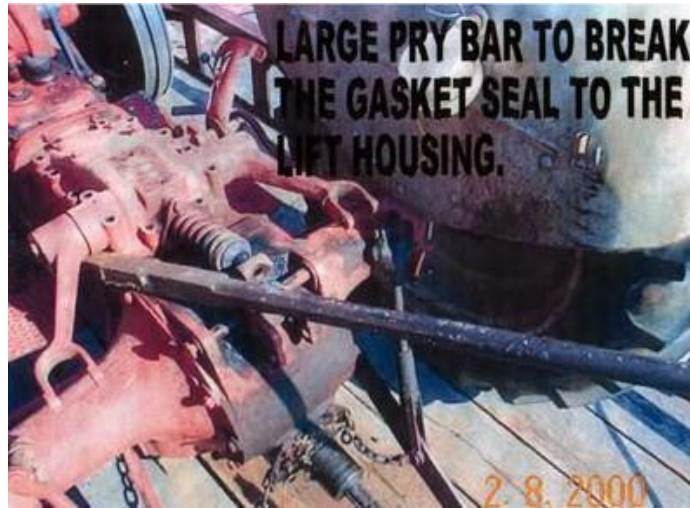
(Fig 2)

Number the bolts that are all around the **outside edge** of the lift assembly. Use a whiteout marker pin (Fig 3).



(Fig 3)

Try to remove the lift cover. If it is stuck, pry it off with a bar as shown in (Fig 4).



(Fig 4)

Lift off the assembly and place it with the draft spring pointing up in a good vice and clamp it down good. If a vice is not available, then have someone hold it up at the draft sensing spring.

If the control rod is bent (Fig 5), then straighten it by holding it against an anvil or something similar and hammer it straight before any adjustment is attempted.



(Fig 5)

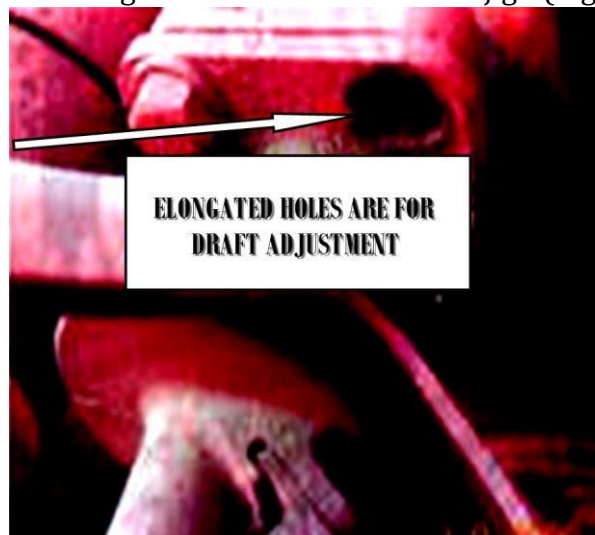
Bolt on the adjusting jig, using the most rearward of the lift assembly mounting holes on the right side of the housing. This will be on your right when the draft sensing spring is pointing up and when viewing the bottom of the assembly as shown in (Fig 8) below.



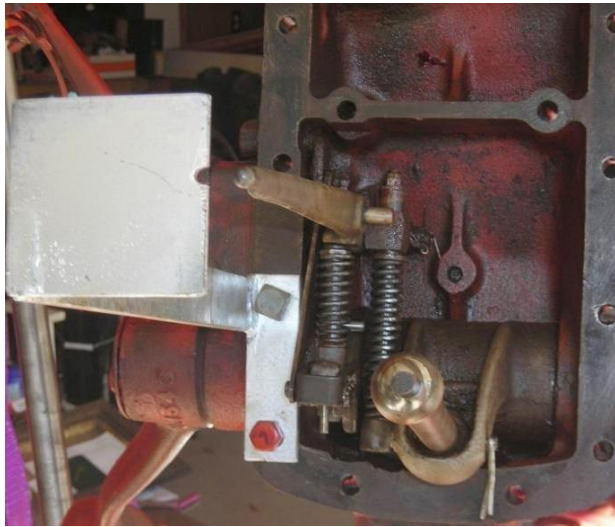
(Fig 6)

Draft Control Adjustment

With the lift arms at their highest position and the touch control handle set at about 2-inches from the topmost position on the quadrant, pull the control rod toward the back of the assembly to take out all the slack and see if the lift control arm lever aligns with the notch in the jig. If it does **not** align with the notch in the jig, then you should loosen the bolts in the quadrant mounting on the side of the lift housing (Fig 6), and drive the quadrant forward or back on the elongated mounting bolt holes until the control rod is aligned with the notch in the jig - (Fig 8).



(Fig 7)



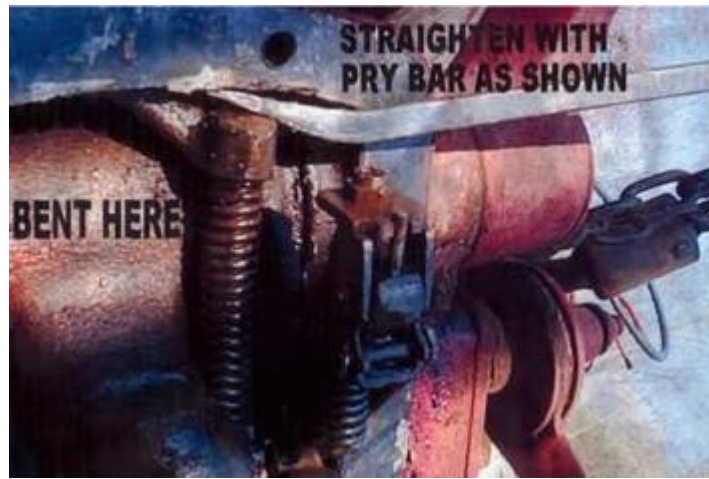
(Fig 8)

If it is still not possible to align the notch with the control rod, check the nut (Fig 9) on the end of the draft control linkage as it may be loose. Tighten the nut on the end of the linkage as shown in the figure and try to align the control rod with the jig notch again.



(Fig 9)

If you cannot make it align, then it is possible that the linkage is bent (Fig 10) at the point where the dogleg of the internal linkage sidesteps the rocker arm. To bend the linkage straight use a small flat ended bar or a large, flat screwdriver capable of use as a pry bar. Place the bar between the end of the dogleg and the rear edge of the lift housing. Do not bend it past what is straight.



(Fig 10)

It is desirable that the bolts be about halfway in the elongated holes (Fig 7) when alignment of the control rod and notch in the jig is accomplished. If it is a little off, it will not matter, but if it is all the way to one end of the elongated holes, the position control adjustment will be difficult to attain. Bending this dogleg link with the pry bar makes it longer.

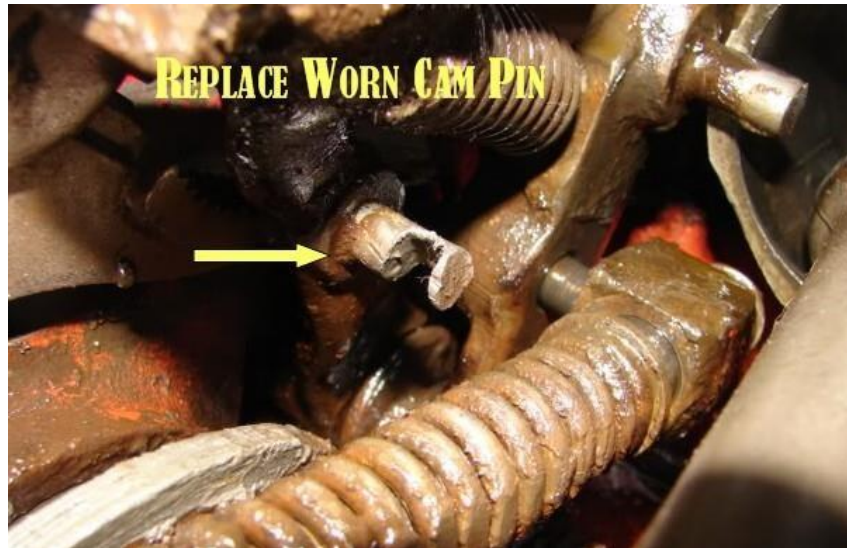
If the draft adjustment cannot be attained with the quadrant close to the center of its elongated holes after all else has been done there is another trick that I have learned to allow for excessive draft linkage wear. First you will have to remove the draft spring yoke again that was the first thing you did and also the three bolts retaining the big draft spring anchor plate under the spring. Fashion a shim to go behind the anchor plate and on top of the shoulder of the draft link that is inside the lift under the anchor plate for the spring. Use a 5/8" flat washer of approximately 1/16" thick and you will have to grind out a notch to fit over the alignment dowel on the back side of the anchor plate so the plate can sit down on the washer without binding. The shim washer will have to go on the link after the anchor plate is removed. This will move the draft link toward the front enough to let you attain the proper draft adjustment and not have the quadrant moved to its maximum on the elongated holes.



(Fig 10B)

Go back and move the quadrant mount on the elongated bolt holes until the end of the control rod is aligned with the notch in the adjusting jig. Be sure to hold all the slack in the linkage of the control rod toward the back of the lift assembly to assure proper adjustment.

When proper draft control adjustment has been done it is time to adjust the position control. Do not attempt to adjust the position control mode until the draft mode is correct.



(Fig 11)

The first thing to do before attempting to make adjustments to the position control linkage is to inspect the cam follower pin (see (Fig 11)). If it is found that the cam follower pin is worn with a flat place on it where it rubs the cam, then it should be replaced with the new Ford part (p/n 374072S) or a steel dowel pin of the same exact diameter as measured with a micrometer, and to the same length. A new one is furnished with the kit.

Grind off the portion of the cam follower pin that is above the link just in case it was swollen or expanded on the end when it was driven in to assure the hole is not expanded when it is driven out, because the pin must be a press fit. Be sure that the new pin is driven down flush with the link it fits into. I usually grind off a small amount of the pin all the way around for about 2/3 of the length of the pin to allow it to be started into the hole in the link more easily. Don't grind it anywhere it will fit into the link when completely driven down. Support the linkage under the cam follower pin when driving it out (Fig 12) with a punch of the correct size.



(Fig 12)

If it is extremely hard to get the old pin out or the new one in you can completely remove the link holding the cam follower pin by first removing the four bolts that hold the ram cylinder to the lift

housing. With the ram cylinder off the housing you then have room to get the link holding the cam follower pin off and then you can lie it across the jaws of a vice to an anvil to make removing and installing the cam follower pin a lot easier. This is especially true if doing it alone with no one to assist you in holding something under the link while it is on the lift housing.

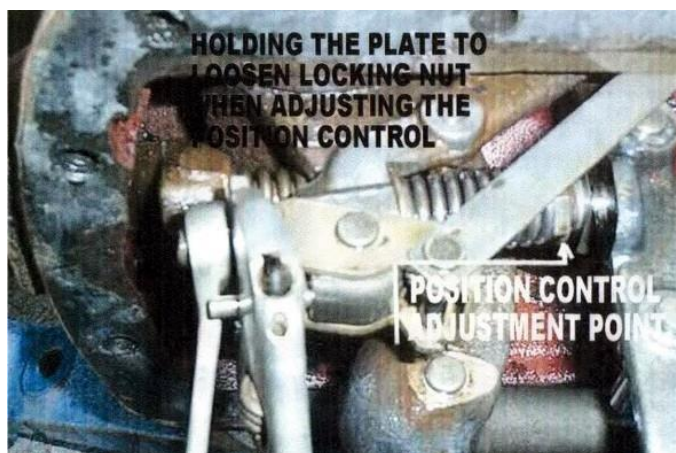
Carefully inspect the link after the pin has been replaced to assure that you have not distorted (bent) the link by hammering on it. It is easy to bend the link in the region where the cam follower pin has been installed and if it is allowed to remain bent when the lift is reinstalled onto the tractor it is likely that the position control linkage will rub and bind against the lift housing on the right side of the tractor and if it does the lift will never work right. Also if it is bent outwards from hammering on the link while installing the new pin it is possible that the new pin will not ride correctly on the cam of the rocker and tend to be pushed off the cam in operation of the lift. If you find that the link is bent, it can be bent back over to where it should be cold or by heating the link enough to bend it back. Observe where the wrong bend is and try to bend it back at this point and not somewhere else.

Move the mode lever to the up-position control. The lift arms should be all the way down and the touch control handle all the way to the bottom of its travel in the quadrant.



(Fig 13)

Hold the flat threaded plate of the position control linkage adjustment with a large adjustable crescent wrench (Fig 14) and loosen the jam nut with a 9/16" end wrench several turns off the flat plate.



(Fig 14)

Using a 5/8" open wrench, turn the adjusting bolt with the narrow flats on its end that comes in contact with the control rod until the control rod is aligned with the notch in the adjusting jig while holding the slack to the back on the control rod. Retighten the jam nut while assuring the adjustment bolt does not turn and change the adjustment.

When the lift is reattached to the tractor differential pump housing, the lift control rod must be guided down behind the pump housing and into the control valve socket by holding the lift up slightly with the left hand on the yoke of the draft spring and with the right hand reaching over the right rear axle housing and feeling the control valve socket with the right hand as the control rod is put in the socket. If the control rod is not properly seated into the control valve socket the lift will not work. Best done with a helper or a chain hoist to assist the lowering of the lift housing into place.

Install the two bolts that are on either side of the oil pressure supply hole in the lift cover assembly and put the pins in the lift arms to the lift links. With the selector lever in the draft mode (down), start the engine and see if the lift will pick up the arms when the touch control handle is moved to within about one inch of the top of its uppermost travel in the quadrant. If it starts to come up before the lever is one inch or less from the top of its travel, loosen the 4 quadrant bolts (Fig 6) and bump it either forward or backward to adjust the position on the quadrant when the lift starts up. It should start up approximately one inch from the top of the travel of the touch control handle.

Now place the mode selector lever (small lever) in the position control (up) position and move the touch control handle all the way down in the quadrant. The lift arms should go all the way to the bottom of their travel. Move the touch control handle up in increments and the lift arms should move up in increments corresponding to the movement of the touch control handle until the lift arms are all the way to the top and the touch control handle is also all the way to the top.

This process should now have the lift in near perfect adjustment so that both the draft and the position control will work as designed to use both ground engaging implements and position-controlled implements and attachments on the lift.

Good luck! ZANE