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 Foot control on my 1450

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11-30-2015, 12:45 AM #1

rdeyoe Member Join Date: Jun 2015
Location: Tennessee
Posts: 57

Foot control on my 1450

I put the plow blade on my 1450 to get it ready for what little snow we get in TN and to move some piles around the back yard. We have a lot of trees and a tow behind leaf vac to handle the leaves. We empty it out back to a drainage area and I use the cubby to build some compost piles. After pushing the piles up, i realized that it's like shadow boxing running the hydro, lift and steering all at once while my right foot is doing nothing. We have a Poulan hydro that pulls the vac and it's much easier with it's foot controlled hydro, so I decided to build one for my tractor.

I found some 1/2" rod in my metal pile and some 1" x 1/4" flat stock to work with. Roaming through my hardware drawers, i found some 1/2" bushings to make mounts with. I mulled over locations for components and looked up some posts until i came up with this setup.

I worked out where I wanted the shaft to go through the frame and drilled a 9/16" hole on the left side, 1/2" on the right. One of the bushings I had was a shouldered 1/2" ID with a 3/4" OD on one end and 9/16" OD on the other, about 1/2" long. I pressed it in the left side with a bolt and nut, and added a tack weld to hold it. I drilled a 1/2" one the right frame and welded a larger bushing on that side.

For the operating lever, I used an idea i built when I switched my lift lever to the left side. I took the 1"x1/4" flat and looped it over

itself leaving a 3/8" or so gap, big enough for a bolt to fit into. Drilled a 1/2" hole through the two layers. I cut a slot from the folded end of the flat to the holes. This way, i can run the shaft through the holes and clamp them with a pinch bolt. This makes it infinitely adjustable on the shaft. I did this on my lift lever swap as the old lever had worn out and this was how Cub Cadet made the redesigned part.

I had to make a redneck junction on the rod end because i didn't want to change the original cub hydro rod (in case i want to go back to stock) and i wanted the rod attached to the lever farther rearward (ball joint stuck too far forward). Welded a bolt to a 5/16-24 nut and replaced the forward ball joint on the rod with this bottomed out on the rod threads.

I used a single spring for a self centering device. I saw it on another post for a QL that had a FEL on it. This seemed stupidly simple and elegant without having to build some double spring device. I drilled a small hole in my console, just above the drive-shaft cover for one end, and made a small sheet metal tab attached to the rod bolt for the other end of the spring. I roughly tried to line up the center-line of the lever with end of the spring and got a spring that would be under a little stretch so it would always try to pull to center. My assembly has almost no friction on it, so the spring isn't substantial (a 4-3/4" long, .071" wire i believe).

I was going to fabricate a pedal, but I wanted it to look more like a pedal. Since my daughter totaled her car (2003 Passat) a while back and left it here, that sounded like a good donor for one. I hacked the brake pedal and some of the arm with it. Drilled a 1/2" hole through the arm (a remarkably strong box construction with a c-channel inside it). I tried a set-screw setup to hold on the shaft so I could adjust it, but it kept slipping. I wound up drilling a 1/4" hole and tapped the arm for a bolt. Since the operating lever is adjustable, I can still set the pedal angle anywhere. I had cut of enough of the arm that centering the shaft in it left me just a small bit big enough for a reverse button/lever kind of thing.

I used a couple of pins and washers to keep the shaft in place. I couldn't protrude on the left...interference with brake pedal. Got it all together and test drove and was surprised that it didn't **need** any adjustment at all. I get full travel on the hydro, and the spring pulls it back to center with no creeping. It returns a bit quickly, but with a dampened effect so it doesn't jar me around. It's so much better to handle now. Don't know why they didn't build them this way...

[Attached Images](#)







--Ryk



11-30-2015, 09:26 AM

#2 



MWSHaw
Senior Member

Join Date: Mar 2012
Location: Michigan
Posts: 506



Nice work! Very creative.



11-30-2015, 06:29 PM

#3

Join Date: Apr 2012
Location: Oklahoma
Posts: 110



[garrynok](#)
Senior Member



Plus one on the foot control. Nice work.

Garry



11-30-2015, 06:57 PM

#4

Join Date: Nov 2010
Location: Jefferson City, Missouri
Posts: 2,635



[bocephus1991](#)
Grand Member



Looks good! Do you use the hand lever to back up?

Brian

April 1979 1200 Quietline 44A deck 1988 1211 customized into a 1288 with a K301AQS 38C deck and a 1864 54" deck . Snow blades 42" and 54" . Brinly disk, brinly plow a cultivator and a \$5 brinly yard rake!



11-30-2015, 08:04 PM

#5

Join Date: Jun 2015
Location: Tennessee
Posts: 57

[rdeyoe](#)
Member



Thanks all. Bocephus; No, the hand lever is completely disconnected. The rod going from the foot lever to the hydro is the original from the hand control, just disconnected (in case i ever want to go back to hand control). On the pedal, i left enough arm (drilled in the center of it) so that I could just push down on it for reverse. It's kinda hard to see in the pic, but the tail end of the pedal arm is about 1 or 2 inches above the tread plate. I can push it down with a toe, or rest my whole foot on the pedal and rock my heel down to back up. Works like a charm.

--Ryk



12-01-2015, 08:43 AM

#6

Join Date: Sep 2012
Location: Pennsylvania
Posts: 1,799



[ironman](#)
Grand Member



rdeyoe, great work on this mod. It is simply, but nicely done. I have a 149 I would love to do this to as I absolutely hate the hand control. Couple questions if you don't mind:

1. Are you happy with your placement of the shaft thru the frame, is there anything specific to keep in mind when choosing that placement?
2. The operating lever that you fabbed out of 1 x 1/4, what is it's measurement from the 1/2" hole that the shaft goes thru to the hole for the hydro rod connector?
3. Do you have any reason to think you'd return it back to hand control?

Thanks in advance for any help, and again, good job.



12-01-2015, 11:16 AM

#2



1811woody
Senior Member

Join Date: Apr 2010
Location: IL
Posts: 582

Nice! I've wanted one on my 1872 I have a electric bucket and a electric sleeve hitch its a pita to have to work the hand throttle on top of the 3 electric switches.



12-01-2015, 11:41 PM

#8

rdeyoe
Member

Join Date: Jun 2015
Location: Tennessee
Posts: 57

rdeyoe, great work on this mod. It is simply, but nicely done. I have a 149 I would love to do this to as I absolutely hate the hand control. Couple questions if you don't mind:

1. Are you happy with your placement of the shaft thru the frame, is there anything specific to keep in mind when choosing that placement?

The only things i had to miss when positioning the shaft was the brake switch mount and the brake pedal assy on the left. The switch is on a large channel between the frame sides, and protruding the shaft out the left side would hit the brake arm / park lock. I measured it off of the brake cross shaft...centerline to centerline forward of the brake cross shaft is about 3" and height is about 1.25" off the tread plate forward mount angle. That puts the bottom of the shaft about 1" above the tread plate. Having that 1" gap to the tread plate leaves space for the bottom of the arm to swing back into reverse.

2. The operating lever that you fabbed out of 1 x 1/4, what is it's measurement from the 1/2" hole that the shaft goes thru to the hole for the hydro rod connector?

I didn't really measure a length for the lever. I wanted it to be lower than the frame sides, so I just put it on the shaft, kinda held the hydro rod in place and marked it below the frame level. I moved it back and forward to make sure I was getting full travel on the hydro. I notched the front of the lever to get as much forward movement so the return spring would have good influence back to center. I would guess CL to CL, shaft to rod mount bolt is about 3.5-4". I can measure it if you **need**.

3. Do you have any reason to think you'd return it back to hand control?

I probably spent more time looking at the thing in my head than I did actually building it. I wanted to make sure that if it didn't work, i could put it back to stock pretty easily and without having to cut stock parts. That's why the funky rod connection. The forward ball joint is LH thread. I could have cut the rod and re-threaded, but i didn't want to mod that piece since it's RH thread on the other end. If i ever wanted to sell the tractor, i could sell as is or if the new owner wanted the original controls, they're easily put back. Now that it does work, i have no reason to return it to hand control and even less reason to sell it! It really is SO much easier to handle now. When i first mowed with this tractor, i somehow got confused working the hand lever trying to slow into a corner. Went forward with it and ran full speed into a concrete head wall. Bent the heck outta my mule drive and ate the steering wheel with my belly. With the foot control, i can zoom around, stop on a dime, steer and back a trailer more intuitively.

Thanks in advance for any help, and again, good job.

Thanks and no prob. If there's anything else i can clarify, just ask. I love having all kinds of info available publicly...it helps all of us.

1811woody; I'm wanting to (someday) build a loader. I can't imagine trying to work one with hand hydro controls...bucket down, steer, forward hydro, stop, bucket up + curl adjust, reverse hydro, steer some more etc. etc.....that would be a workout! I moved my lift lever to the left side because even mowing was a bit busy with both controls on the same side. I could have the lift back on the right or left now and not **need** three hands just to mow! I'd bet doing a foot control on an 1872 would be simple as well. That's a super, isn't it?...even more space to work with! I haven't looked at many pics of the supers, but they can't be too much different a setup than the QLs were as far as the hydro control goes, i wouldn't think.

--Ryk

12-02-2015, 07:33 AM

#9



ironman
Grand Member

Join Date: Sep 2012
Location: Pennsylvania
Posts: 1,799



I appreciate your tips. I wish I could start on mine today but right now I don't have the time nor the room. Winter is just getting started and already I can't wait for spring. Thank you.

12-02-2015, 09:41 AM

#10



181woody
Senior Member

Join Date: Apr 2010
Location: IL
Posts: 582



redeye, Yes 1872 is a super. The problem I have when I looked at how to do it was the fact that theres pedals on both sides of the tractor, yes theres a longer stretch between the fender and the pedals but I have to work around them some how 😊 Simplicity if I remember right had a heal operated hydrostatic control so I'm looking at going that direction. Like you I want to make it so I don't damage the existing drive mechanism but just unhook it so I go back to the hand control.

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12-02-2015, 10:07 AM #11

[rdeyoe](#) Join Date: Jun 2015
Location: Tennessee
Posts: 57

Member

1811woody; ah, i see now. You have the turn brakes on the right, yes? Does look a bit crowded on that side. I had a friend with that "other" tractor brand, a 318 model that had the turn brakes on the right also. That does complicate things a bit, but then again, you do have a little extra length to work with. Is it just a single brake on the left side? Maybe you could move the turn brakes to that side and do the hydro on the right. Would take a lot more work though...

--Ryk

[Quote](#)

12-02-2015, 07:35 PM #12

[CC1450](#) Join Date: Jul 2010
Location: Indiana
Posts: 497

Senior Member



nice modification and great post thanks for sharing!

your method for making the arm that attaches to the shaft was brilliant, and was just the ticket to help me complete the controls for a dual stick spool valve setup I am working on.



-Mark
1978 1450
1976 1450



12-03-2015, 10:04 AM

#13

[rdeyoe](#)
Member

Join Date: Jun 2015
Location: Tennessee
Posts: 57



Thanks **CC1450**. Actually, the lift controls is where i got the idea. I wanted to put my lift lever on the left of the tractor. Mine is a 1975 model, and the lift lever from the spool valve was pinned to the shaft. The pin had sheared and i couldn't hardly remove the lever or shaft, plus it would've been a pain to put a pin back in it inside the tower. I saw that IH had redesigned the lever on later models to a clamping system. That's where the idea came from. Cold bending 1/4" flat stock without a torch is difficult, but can be done. I start it in a vise with a hammer, get it past 90 degrees or so, then put it in a press with a bolt at the bend and some flat stock along it to keep the gap. I'm sure an oxy torch or mini forge would make it much simpler / neater.

Attached Images



--Ryk



12-04-2015, 02:55 PM

#14

Join Date: Apr 2012
Location: Oklahoma
Posts: 110



garrynok
Senior Member



Rdeyoe, some of the foot control setups I have seen use a damper in addition to the self centering spring. The damper is suppose to keep the foot pedal from jerking when you hit a bump. I'm curious how your setup works when traveling across a bumpy yard. Do you have to fight the pedal or does it tend to stay in one place?

Garry



12-07-2015, 11:57 PM

#15

Join Date: Jun 2015
Location: Tennessee
Posts: 57

rdeyoe
Member



Hey garrynok. Not sure what you mean by "fighting the pedal", My foot rests on the tread plate, so i'm not bouncing on it at all. The centering spring might could be a bit stronger actually. I've found that if i "floor" it, it tends to stick that way...kinda like a cruise control on high speed. A slight tap on the back side of the pedal and it returns, slowly to center again. I think maybe cutting the spring for more return pressure may keep it from sticking, but it works great where it is too.

--Ryk



12-08-2015, 01:37 AM

#16



OldSkull
Grand Member

Join Date: Aug 2012
Location: Quebec
Posts: 1,104

It's a perfect K.I.S solution, well done sir! 👍

I never new what I was missing until I use the hydro foot control of my "carrot head". Now every time I use my QL I wish they had the same easy to deal with system.

Gilles.

1988 2072 401 54" hyd angled blade
1988 1872 364 snowblower/C50 deck
1976 1650/QA42A blower/44A deck/standby
1976 1450TS/Sleeve hitch/44A deck/in storage
1963 100 (red)/in storage
2010 Kubota 2380-2/42" infinity deck (engine swap)



12-08-2015, 10:34 AM

#17



ironman
Grand Member

Join Date: Sep 2012
Location: Pennsylvania
Posts: 1,799

Quote:

Originally Posted by **rdeyoe**

Hey garrynok. Not sure what you mean by "fighting the pedal", My foot rests on the tread plate, so i'm not bouncing on it at all. The centering spring might could be a bit stronger actually. I've found that if i "floor" it, it tends to stick that way...kinda like a cruise control on high speed. A slight tap on the back side of the pedal and it returns, slowly to center again. I think maybe cutting the spring for more return pressure may keep it from sticking, but it works great where it is too.

rdeyoe, I was pondering your arrangement with a shorter spring with an "eye bolt" on one end or the other which you could use to adjust the spring tension.

Your thoughts??



12-13-2015, 10:41 PM

#18

rdeyoe
Member

Join Date: Jun 2015
Location: Tennessee
Posts: 57

ironman, I think that would be a great idea. The one I saw on that loader project (can't find the link now) had an eye bolt setup for the spring tension initially, but his later post said that he found he didn't **need** it. I like it pretty much as it is, but i may put a bit more tension in it. For some reason, as simple as it is, I hate removing the screws on the driveshaft cover. I'm going to try and come up with a way to quick disconnect it. On aircraft we had panels held with dzus fasteners. That'd be a great way to put that and maybe the side panels on / off.

--Ryk



12-14-2015, 08:22 AM

#19



ironman
Grand Member

Join Date: Sep 2012
Location: Pennsylvania
Posts: 1,799

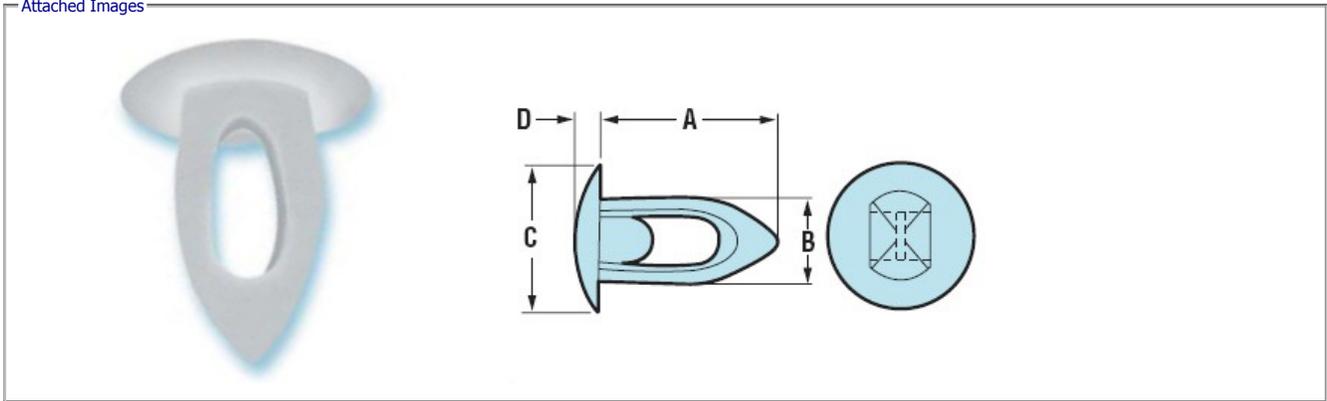


Quote:

Originally Posted by **rdeyoe**
For some reason, as simple as it is, I hate removing the screws on the driveshaft cover. I'm going to try and come up with a way to quick disconnect it. On aircraft we had panels held with dzus fasteners. That'd be a great way to put that and maybe the side panels on / off.

rdeyoe, Ditto with you on those screws. How about something like this for the driveshaft cover. Called Dart Type Hollow Body Panel Clips. No tools, just pull up on the cover to remove, push them back in with your thumb to put it back on.

Attached Images



12-14-2015, 08:30 AM

#20



olds45512
Grand Member

Join Date: May 2014
Location: Indiana, PA
Posts: 8,286



Quote:

Originally Posted by **ironman**
rdeyoe, Ditto with you on those screws. How about something like this for the driveshaft cover. Called Dart Type Hollow Body Panel Clips. No tools, just pull up on the cover to remove, push them back in with your thumb to put it back on.

The only downfall I see to that is if it doesn't hold the cover tight it might vibrate and make noise.

Tim

Pap's 100
Restored 108
1211 Dual Stick
1050

Pap's 100 restoration thread - <http://onlycubcadets.net/forum/showthread.php?t=47965>



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12-14-2015, 09:03 AM

#21



ironman
Grand Member

Join Date: Sep 2012
 Location: Pennsylvania
 Posts: 1,799

Quote:

Originally Posted by **olds45512**

The only downfall I see to that is if it doesn't hold the cover tight it might vibrate and make noise.

A few thin strips of anti-vibration tape on the underside of the cover would probably take care of that.

Attached Images



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