

# Auxiliary Hydraulics Installation

## AT-9086

Document Number	Kit Number / Part Number	Model	Serial Number Range
12-70037	AT-9086	520M / 520Y	All Units

### ⚠ WARNING

Before making repairs or adjustments set the parking brake, turn off the engine, and remove the ignition key.

Always disconnect the negative battery cable from the battery when working with electrical components. Always work in a manner that does not put safety at risk!

### ⚠ WARNING

Safety glasses must be worn during installation. Ear (hearing) protection must be worn when using air or power tools.

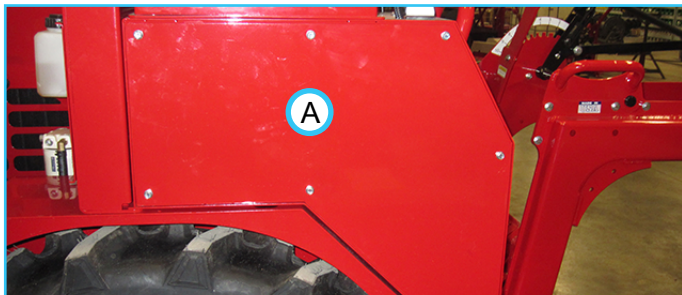
**Installation Notes:** Right and left hand orientation referred to in these instructions is determined as if facing forward from the operator station.

**Installation Time (estimated)** 2 hours

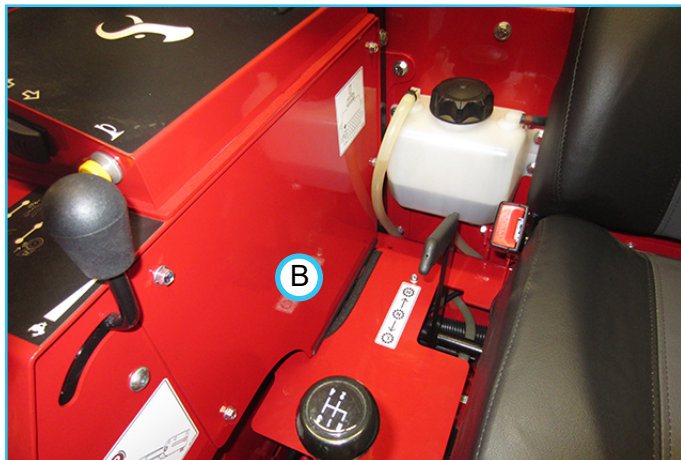
**Tools Required:** 3/8" wrench, 3/8" socket, 7/16" wrench, 7/16" socket, 1/2" wrench, 1/2" socket, 11/16" wrench, 7/8" wrench, 13/16" wrench, 7/8" crows foot wrench, Torque wrench, Ratchet

Kit Contents		
Part #	Description	Qty.
20-0380	Hose, 1/4x149.00 SAE 100R17AR	2
20-0381	Hose, 1/4x72.00 SAE 100R17AR	2
23-0106	Coupler, Quick Female 1/4	2
23-0171	Valve, HYD 4 Spool	1
25-6802-06-08	Fitting, 45 ME 3/8 x 1/2	4
99-SF06	Nut, SRF 3/8-16 USS	2
99-SF0606	Bolt, SRF 3/8-16 USS x 3/4	2
AT-1299	Plate, Aux Hyd Mount	1
00-0578	Decal, Hyd Valve Auxiliary	1

1. Park the tractor on a level surface.
2. Lower the front and rear hitches to the lowest position.
3. Engage the parking brake and shut off the engine.
4. Remove the key from the ignition switch.
5. Remove the outer console cover (A) by removing the seven 1/4" bolts located around the perimeter of the cover.



6. Remove the inner console cover (B) by removing the four 1/4" bolts located around the perimeter of the cover.

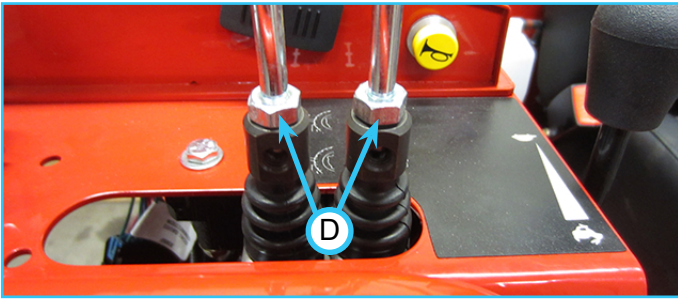


7. Remove the four spool access plate (C) by removing the two 1/4" bolts.

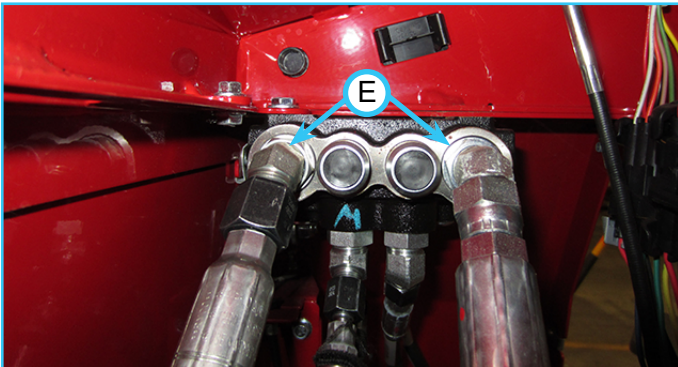




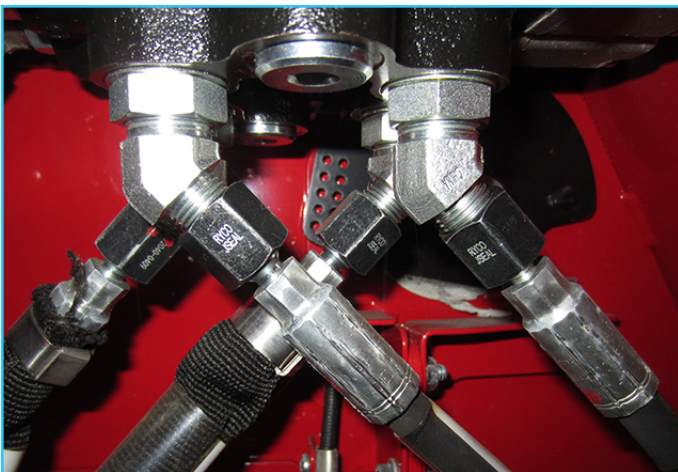
8. Remove the valve control levers (D).



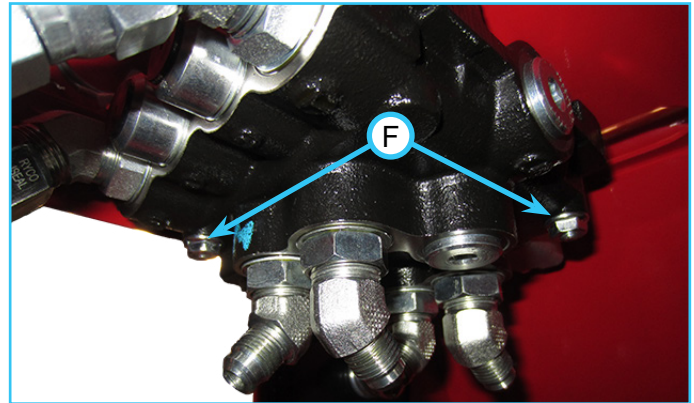
9. Place a drip pan in front of the rear tire under the fender assembly and step.
10. When removing the hydraulic hoses residual hydraulic fluid will leak from the spool valve and lines. Paper towels or rags placed over the wiring harness may make clean up easier. Drain holes in the bottom of the console assembly will allow any hydraulic fluid to flow into the drip pan.
11. Label and note the location of the hydraulic supply and return hoses.
12. Disconnect the supply and return hoses (E) from the spool valve.



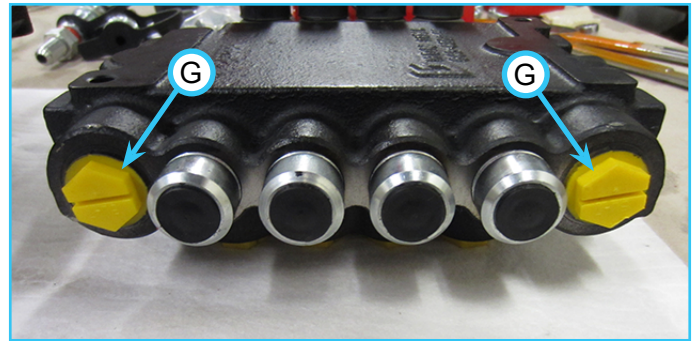
13. Label and note the location of the front and rear hitch hoses.
14. Disconnect the front and rear hitch hoses from the spool valve.



15. Remove the spool valve from the tractor by remove the two mounting bolts (F).



16. Remove the plugs (G) from the supply and return ports of the new four spool valve.



17. Remove the supply and return fittings from the two spool valve.
18. Install the supply and return fittings into the four spool valve.



19. Torque the supply and return fittings to 40-43 in-lbs (4.5-4.8 Nm)
20. Remove the eight plugs from the four spool valve.
21. Remove the four fittings from the control ports of the two spool valve.



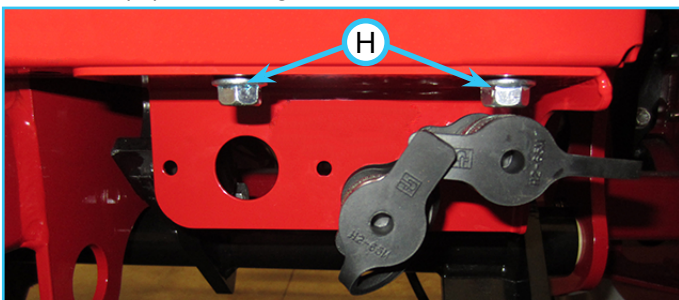
22. Install the four fittings into the control ports of the four spool valve along with the four fittings (P/N 25.6802-06-08) supplied in the kit as shown below.



23. Torque the fittings to 22-24 in-lbs (2.4-2.7 Nm)  
24. Position the new four spool valve in the tractor aligning the mounting holes.  
25. Install the two 1/4" mounting bolts.  
26. Torque the mounting bolts to 100 in-lbs (11 Nm).  
27. Install the supply and return lines onto the four spool valve in the same locations that they were mounted on the two spool valve.  
28. Tighten the fittings hand tight and then 1-1/2 flats.  
29. Install the front and rear hitch hydraulic hoses onto the spool valve in the same locations that they were mounted on the two spool valve.  
30. Tighten the fittings hand tight and then 1-1/2 flats.  
31. Install the two female quick coupler fittings onto the front frame above the mid mount hitch arms.



32. Install the rear hydraulic quick couplers and mount on to the bottom of the rear engine cover.  
33. Secure the mount in place using two 3/8" flange bolts (H) and flange nuts.



34. Torque the flange nuts to 31 ft-lbs (42 Nm).  
35. Label the long set of hoses. Label both ends of one of the hoses yellow. Label both ends of the other hose red.  
36. Connect the 45 degree fitting of the hydraulic hose labeled red to the red hydraulic fitting on the front frame of the tractor.  
37. Tighten the fitting hand tight and then 1-1/2 flats.



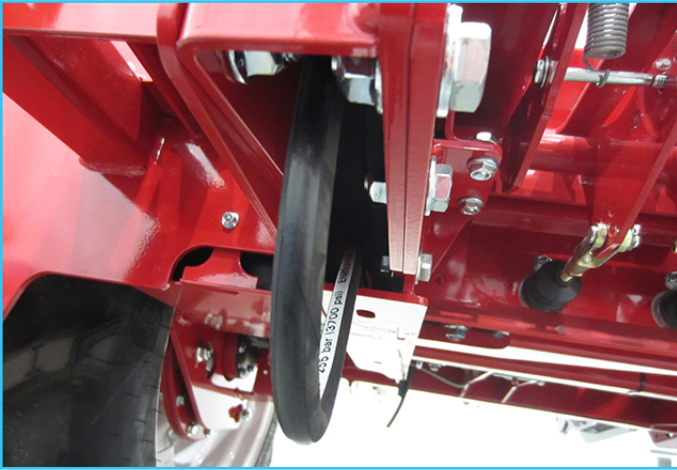
38. Connect the 45 degree fitting of the hydraulic hose labeled yellow to the yellow hydraulic fitting on the front frame of the tractor.  
39. Tighten the fitting hand tight and then 1-1/2 flats.  
40. Route the hoses through the access hole into the right frame rail of the tractor.



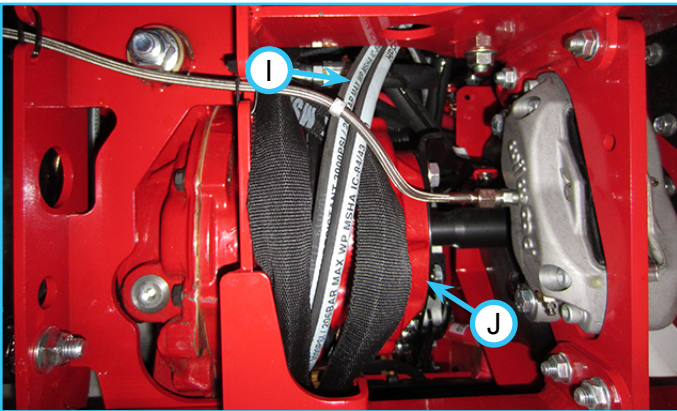
41. Use the access holes along the frame rail to assist in routing the hydraulic hoses to the operators platform.



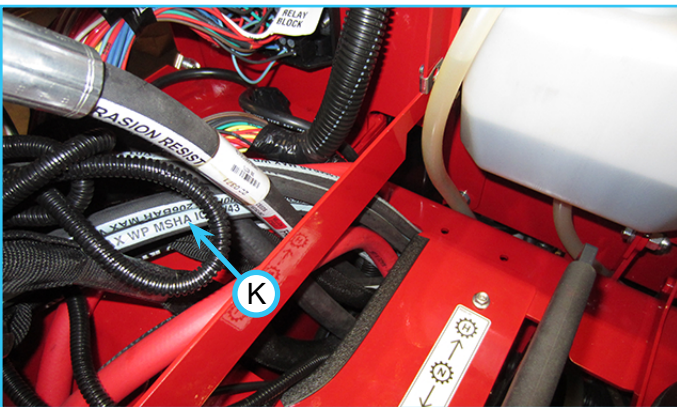
42. Route the hoses through the frame under the operators platform.



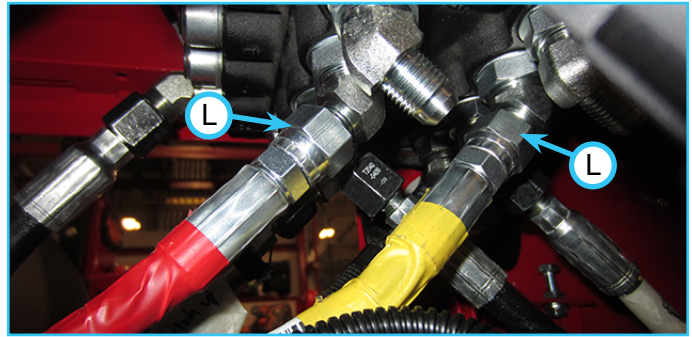
43. As the hoses (I) are routed under the two speed transmission (J). Ensure that the hoses do not interfere with any of the rotating parts.



44. Route the hoses (K) into the operators console.



45. Install the front hitch hydraulic hoses (L) onto the four spool valve. Ensure that the red labeled hose is connected to the rear fitting and the yellow labeled hose is connected to the forward fitting.

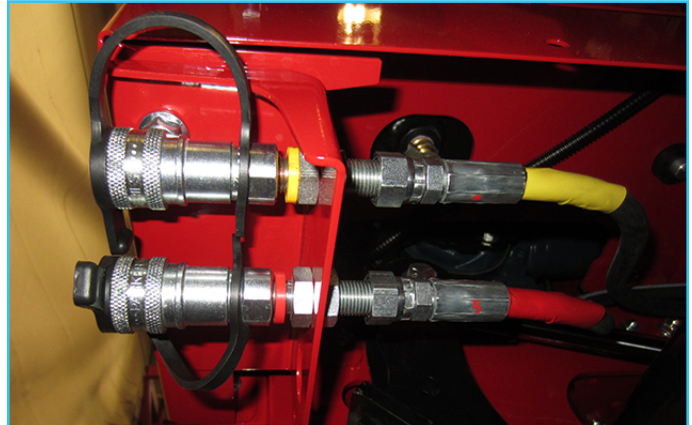


46. Tighten the fittings hand tight and then 1-1/2 flats.

47. Label the short set of hoses. Label both ends of one of the hoses yellow. Label both ends of the other hose red.

48. Connect the hydraulic hose labeled red to the red hydraulic fitting on the rear hydraulic coupler mount.

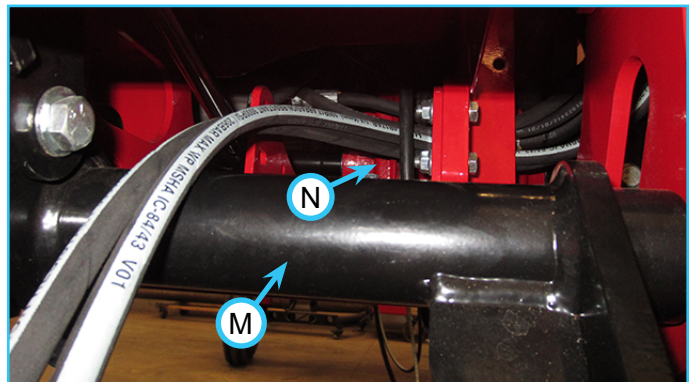
49. Tighten the fitting to hand tight and then 1-1/2 flats.



50. Connect the hydraulic hose labeled yellow to the yellow hydraulic fitting on the rear hydraulic coupler mount.

51. Tighten the fitting hand tight and then 1-1/2 flats.

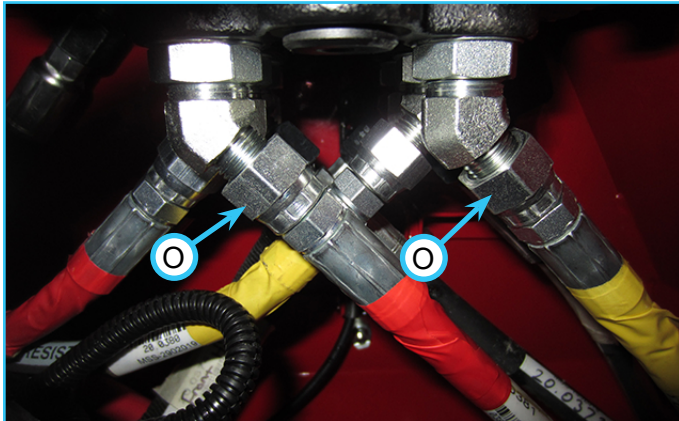
52. Route the hoses over the rear hitch (M) and behind the two speed transmission (N).



53. Route the hoses up to the operators console.



54. Install the rear hitch hydraulic hoses (O) onto the four spool valve. Ensure that the red labeled hose is connected to the rear fitting and the yellow labeled hose is connected to the forward fitting.



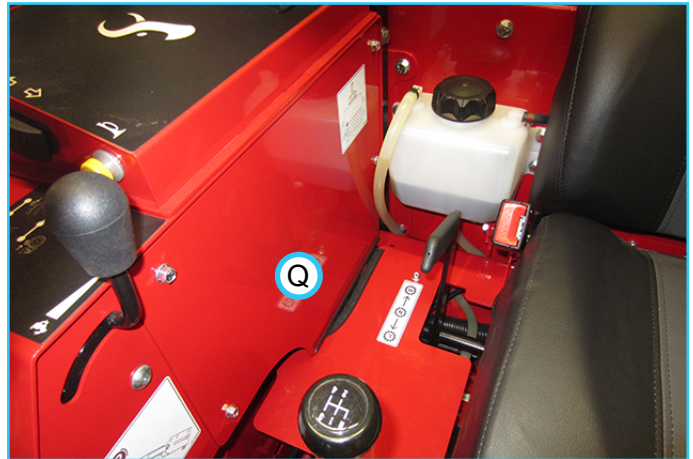
55. Tighten the fittings hand tight and then 1-1/2 flats.  
 56. Clean the surface behind the four spool valve control handles to prepare for the installation of the auxiliary hydraulic valve decal.  
 57. Install the auxiliary hydraulic valve decal (P) as shown in the image below.



58. Install the four hydraulic control levers.



59. Install the inner console cover (Q) using the four 1/4" bolts.



60. Torque the bolts to 100 in-lbs (11 Nm).  
 61. Install the outer console cover (R) using the seven 1/4" bolts.



62. Torque the bolts to 100 in-lbs (11 Nm).  
 63. Check and add fluid to the hydraulic reservoir. During the first operation of the front and rear auxiliary hydraulics it will be necessary to add hydraulic fluid to the reservoir.  
 64. Check the hydraulic fluid in accordance with the tractors operators manual. Type and specification of hydraulic oil can be found in the specifications section of the operators manual.

**Installation Complete**