

# Installation Instructions

## Derby Stallion Oil Cooler Kit

Part No. 1846197

For all Derby Stallion ZT2354 mowers

This kit is for installing oil coolers to the hydraulic system. This kit should be installed when using the Triple Bagger Grass Collection System.

### Kit Contents:

Ref	Part No.	Qty.	Description
1	22467	2	Oil Cooler
2	1846152	1	Mount Bracket-Left
3	1846153	1	Mount Bracket-Right
4	1846154	1	Oil Cooler Mount
5	22106	2	3/8" Hose Fitting
6	21164	4	Hose Clamp
7	25299	8	Bolt, 1/4-20 x 3/4" Torx Head
8	25095	8	Nut, 1/4-20 Nylon Lock
9	50860-19	1	3/8" Hose, 19" (not shown)
10	50860-25	1	3/8" Hose, 25" (not shown)
11	50860-48	2	3/8" Hose, 48" (not shown)
12	50862-18	1	3/4" Wire Loom, 18" (not shown)
12	50862-24	1	3/4" Wire Loom, 24" (not shown)
13	21029	3	Long Tie Wrap (not shown)
14	21030	1	Short Tie Wrap (not shown)

### **⚠** WARNING

Before beginning any service work turn off the PTO, set the parking brake, turn off the ignition, and disconnect the spark plug wire(s).

### REMOVAL & INSTALLATION

1. Park machine on a flat, level surface and engage the parking brake.
2. Remove and discard the fuel tank tie bar and the left and right mounting brackets. SAVE the mounting hardware.
3. Remove the split collars from the control cross shaft and carefully lift the shaft assembly from the saddles. Set the shaft on the ledge of the rear seat support to allow for increased access room.
4. Subassemble the 19" and 25" hose lengths with one of the barbed fittings on each hose and the appropriate length of wire loom. Be sure the barbs are fully inserted into the hose end. Applying a few drops of oil on the barbs will make the assemble easier.

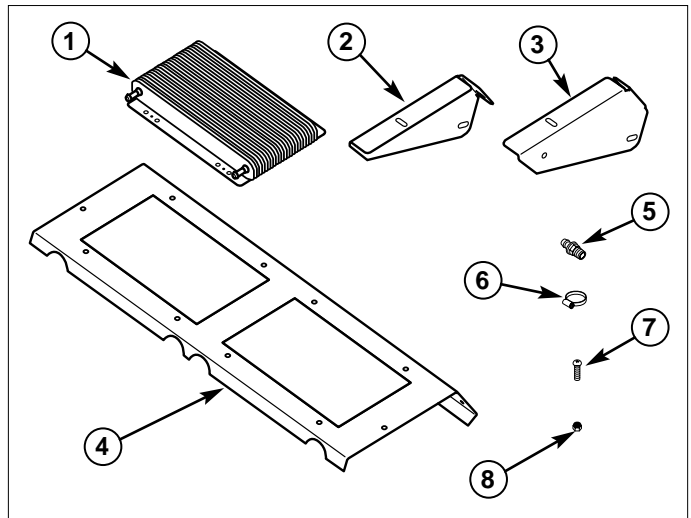


Figure 1. Kit Contents



Figure 2. Fitting Orientation

**NOTE:** Some oil loss will occur when disconnecting the hydraulic hoses. Remove and reconnect as quickly as possible and prepare to contain the lost oil.

5. Remove the right return hose and loosen the jam nut on the fitting on the pump. Rotate the fitting towards the rear of the machine and point it slightly upwards (see Figure 2). Tighten the jam nut.
6. Install the 19" hose assembly to the fitting on the pump and tighten. Leave the free end of the hose higher than the reservoir to prevent to hydraulic system from draining.

7. Block the front wheels and jack up the rear of the machine and set on jack stands or wooden blocks. Remove the left drive tire. This will allow for easier access to the left hand pump.
8. Remove the left return hose and loosen the jam nut on the fitting on the pump. Rotate the fitting towards the rear of the machine and point it slightly upwards (see Figure 2). Tighten the jam nut.
9. Install the 25" hose assembly to the fitting on the pump and tighten. Leave the free end of the hose higher than the reservoir to prevent the hydraulic system from draining. Route the hose behind the high-pressure hoses (see Figure 3).
10. Remove both return hoses from the top of the reservoir and save the hose clamps.
11. Reinstall the control cross shaft into the saddles. Make sure the new hoses do not contact the shaft. If the hose does contact the shaft, loosen the jam nut on the fitting and rotate the fitting until approximately 1/4" clearance is obtained. Secure the cross shaft with the split collars.
12. Route the 48" hoses under the control cross shaft and through the clearance opening in the battery pan near the right-hand pump, under the wiring harness and under the 5/8" supply hose.
13. Connect the return hoses to the reservoir and secure with the hose clamps previously removed.
14. Install the oil coolers in the oil cooler mount using the torx bolts and nylon nuts supplied with this kit. Make sure the hose barb of the coolers are pointing towards the half-holes in the mount.
15. Install the left and right side cooler mount brackets to the fuel tanks using the bolts previously removed.
16. Install the oil cooler mount on the brackets, center side-to-side and secure with the torx bolts and nylon nuts previously removed.
17. Connect the hoses to the oil coolers. Connect the hose from the right side barb of the oil reservoir to the right side oil cooler and the hose from the left side barb to the left side cooler. See Figure 4 for the proper hose locations. Secure with the enclosed hose clamps.
18. Install the tie wraps as shown in Figures 4-6. Use a long tie wrap to secure the 48" hoses to the 5/8" supply hose. Position the hoses so they do not contact the battery pan. Use the remaining two long tie wraps to bundle the hoses together in front of the engine. Be sure the tie wrap secures the hoses to the engine screen. Use the short tie wrap to secure the 25" hose to the engine oil dipstick tube. Do not over-tighten the tie wraps or collapsing the hose may result.



Figure 3. Left Return Hose Routing

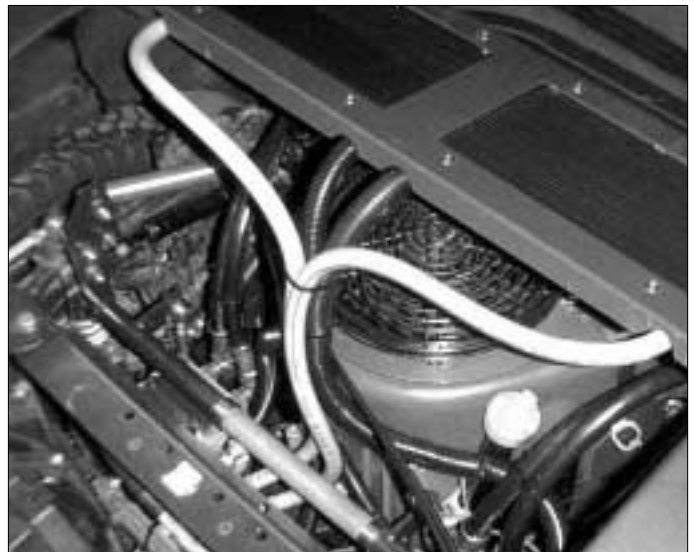


Figure 4. Hose Routing



Figure 5. Tie Wrap Location

19. Refill the oil reservoir to the "MAX OIL LEVEL HOT" line. Use either Mobil 1, 15W-50 synthetic oil or Castrol Syntec 5W-50 oil. **DO NOT** use conventional oils. Make sure area around the reservoir is free of dust, dirt, or other debris.
20. Reinstall the left drive tire and remove the jack stands. Lower the seat plate.
21. Make sure the parking brake is engaged, the control handles locked in the "NEUTRAL" position and the PTO switch is off. Reconnect the spark plug wires.
22. Start the engine and run it in the slowest throttle position. Dismount the machine and raise the seat plate.
23. Carefully watch the oil level in the reservoir while the machine is running. The level will initially drop quickly as the oil coolers are being filled. Do not allow the oil level to drop below 50% of the full capacity.
24. With the cap removed, look through the filler neck of the oil reservoir and watch for oil flow at the return line barbs. Once there is a continuously flow of oil, the return side of the hydraulic system has been filled. If necessary, fill the oil reservoir to 1/2" below the "MAX OIL LEVEL HOT" line.
25. Replace the oil reservoir cap and lower the seat plate.



**Figure 6. Tie Wrap Location**

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