Form No. 3359-917 Rev A

Oil Cooler Kit

2007 and Before Kubota-Powered Z Master Riding Mower

Model No. 115–3565

Installation Instructions

Note: When installing this kit, it is an ideal time to change the hydraulic oil filter. Contact an Authorized Service Dealer for the correct filter.

Hydraulic fluid escaping under pressure can penetrate skin and cause injury.

- **If hydraulic fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this type of injury. Gangrene may result if this is not done.**
- **Keep body and hands away from pin hole leaks or nozzles that eject high pressure hydraulic fluid.**
- **Use cardboard or paper to find hydraulic leaks.**
- **Safely relieve all pressure in the hydraulic system before performing any work on the hydraulic system.**
- **Make sure all hydraulic fluid hoses and lines are in good condition and all hydraulic connections and fittings are tight before applying pressure to hydraulic system.**

Loose Parts

Use the chart below to verify that all parts have been shipped.

Procedure	Description	Qty.	Use
1	Oil cooler Hose Hose clamp Hose sleeve	1 2 2 1	Remove the hydraulic cooler and draining the hydraulic oil.
2	Elbow fittings Bolt (1/4 x 1–1/4 inches) Locknut (1/4 inch) Plastic tie	2 1 1 1	Install the elbow fittings and route the hoses.
3	Actuator seal External lock washer	2 2	Install the actuator seals.
4	No parts required	–	Verify the connections.

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Original Instructions (EN)
Printed in the USA.

1

Replacing the Hydraulic Cooler and Draining the Hydraulic Oil

Parts needed for this procedure:

1	Oil cooler
2	Hose
2	Hose clamp
1	Hose sleeve

Procedure

Important: Allow the hydraulic oil to cool before installing this kit.

1. Disengage the PTO, move the motion control levers to the neutral locked position and set the parking brake.
2. Stop the engine, remove the key, and wait for all moving parts to stop before leaving the operating position.
3. Allow the engine to cool before installing this kit.
4. Thoroughly wash the machine to avoid getting any debris into the hydraulic system.
5. Jack up the rear of the machine and support it with jack stands (Figure 1).

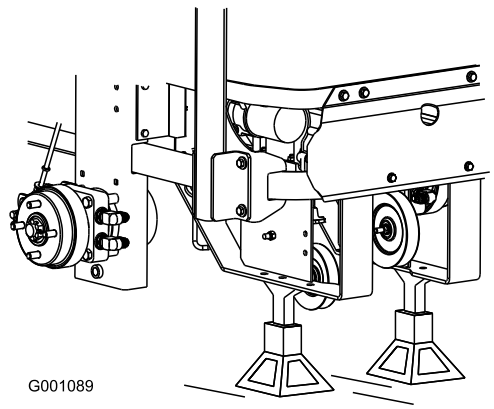

Figure 1

6. Remove the left rear wheel (Figure 2).

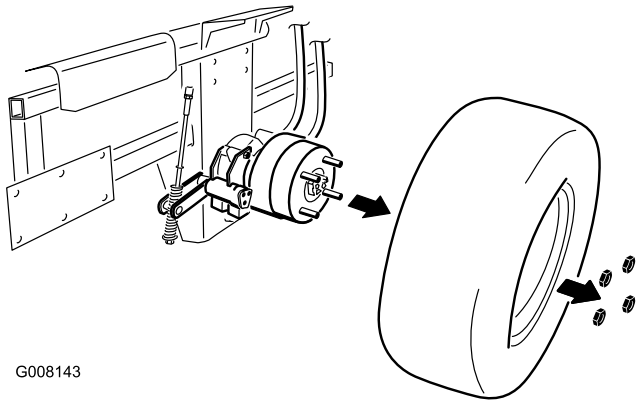

Figure 2

7. Loosen the bolts holding the engine straps to the side of the machine (Figure 3).
8. Remove the 4 nuts and bolts holding the oil cooler shield to the rear frame (Figure 3). Save these nuts and bolts.

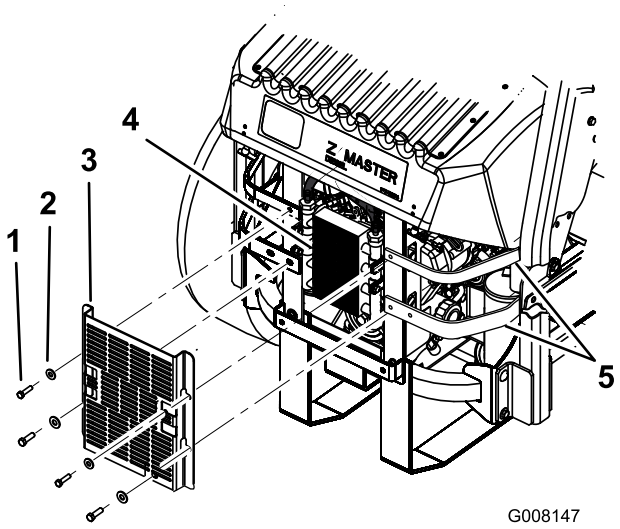

Figure 3

1. Bolts
2. Washers
3. Oil cooler shield
4. Oil cooler
5. Loosen engine strap bolts

9. Remove the 4 nuts and bolts holding the oil cooler and remove the oil cooler (Figure 4). Save these nuts and bolts.

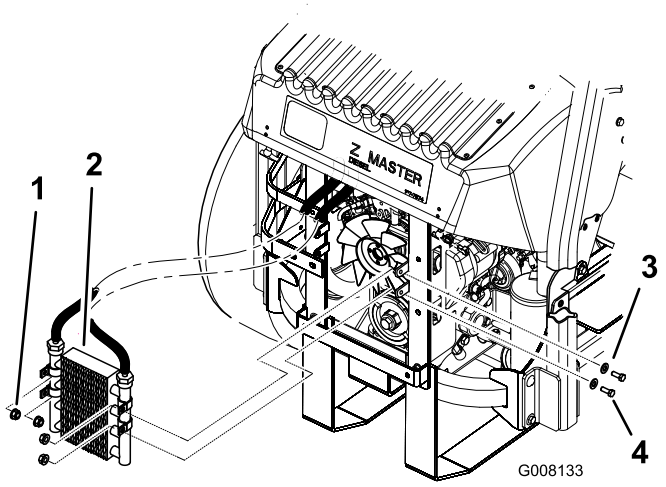

Figure 4

1. Nuts
2. Oil cooler
3. Washers
4. Bolts

10. Place a large pan under the oil cooler to collect the hydraulic oil.
11. Remove the hoses from the oil cooler and drain the hydraulic oil into the pan.

    Note: This is an ideal time to change the hydraulic oil filter. Contact an Authorized Service Dealer for the correct filter.

12. Place the oil pan under the hydraulic oil filter. Remove the hydraulic oil filter and allow all oil to drain into the pan.
13. Remove the 4 R-clamps installed on the old oil cooler and install them onto the new oil cooler.

    Note: The new hoses are the same length and it is not important which end or side they are installed to the oil cooler.

14. Install the new hoses to the new oil cooler with 2 hose clamps (Figure 5).

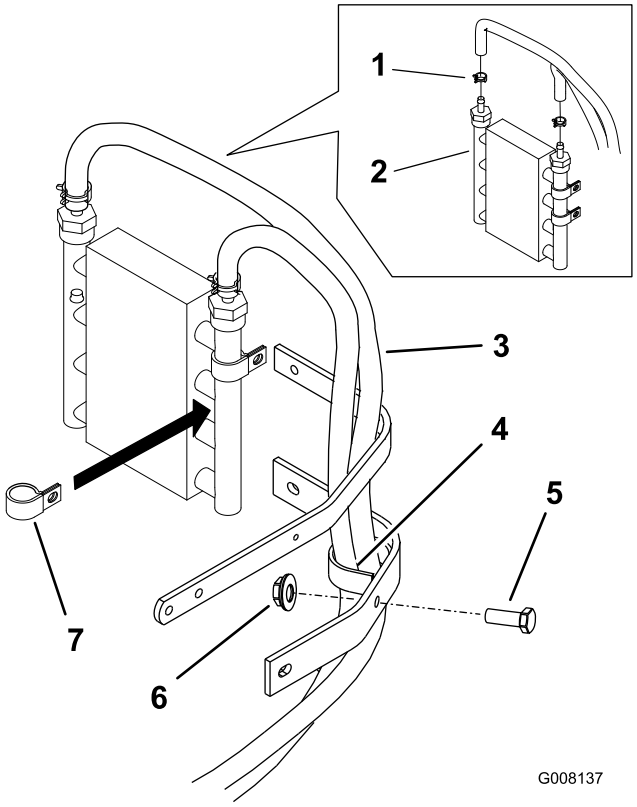

Figure 5

1. Hose clamp
2. Oil cooler
3. Hoses
4. New R-clamp
5. Previously removed bolt
6. Previously removed nut
7. Previously removed oil cooler R-clamp

15. Install the oil cooler shield to the rear frame with the 4 nuts and bolts previously removed (Figure 3).
16. Tighten the bolts for the engine straps on the side of the machine (Figure 3).
17. Install the oil cooler shield with the 4 nuts and bolts previously removed (Figure 4).
18. Install a new hydraulic filter.

2

Installing the Elbow Fittings and Routing the Hoses

Parts needed for this procedure:

2	Elbow fittings
1	Bolt (1/4 x 1–1/4 inches)
1	Locknut (1/4 inch)
1	Plastic tie

Procedure

Note: The new hoses are the same length and it is not important which hose is installed to the elbow in the tank or the pump.

1. Remove the existing hose and elbow on the left side of the back pump (Figure 6).
2. Install the new elbow fitting into the left side of the back pump (Figure 6). Refer to Figure for the correct angle.

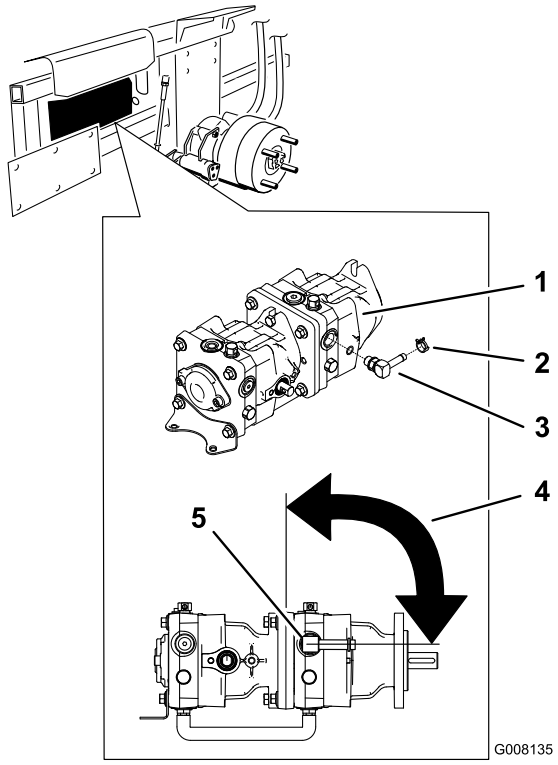

Figure 6

1. Left side of pumps
2. Hose clamp
3. Elbow fitting
4. 90 degree angle
5. Elbow fitting shown at 90 degree angle

3. Remove the existing hose and left side elbow fitting from the bottom of the hydraulic tank.
4. Install the new left side elbow fitting to the bottom of the hydraulic oil tank (Figure 7). Refer to Figure for the correct angle.

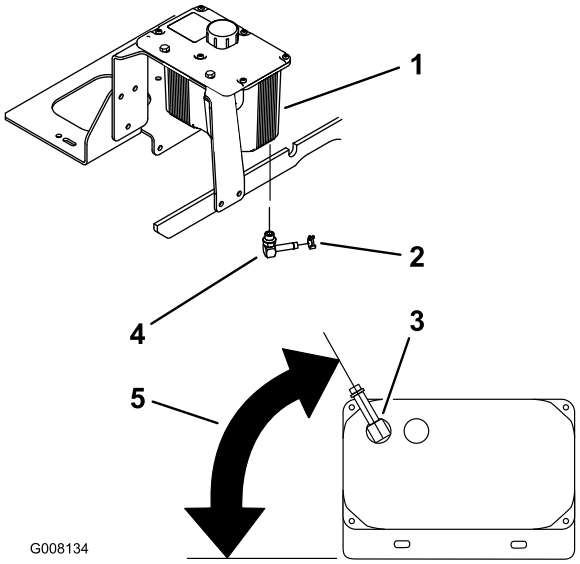

Figure 7

1. Hydraulic oil tank
2. Hose clamp
3. Elbow fitting at 60 degree angle
4. Elbow fitting with O-ring
5. 60 degree angle

5. Route the hoses through the new R-clamp and along the side of the machine (Figure 9).
6. Install the sleeve onto the hoses and route through the pump plate (Figure 8 and Figure 9). Make sure the sleeve is install into the hole in the pump plate.
7. Secure the hoses to the side of the machine with a plastic tie (Figure 8).

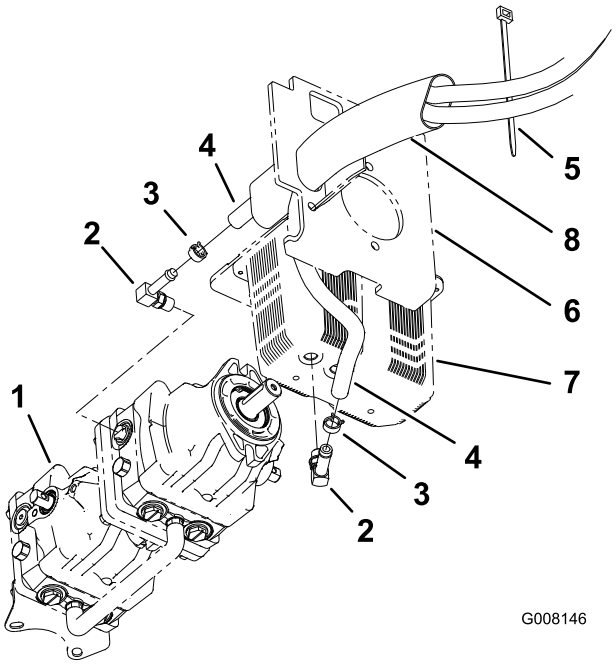

Figure 8

1. Left side of pumps
2. Elbow fitting with O-ring
3. Hose clamp
4. Hose
5. Plastic tie
6. Pump plate
7. Hydraulic oil tank
8. Hose sleeve

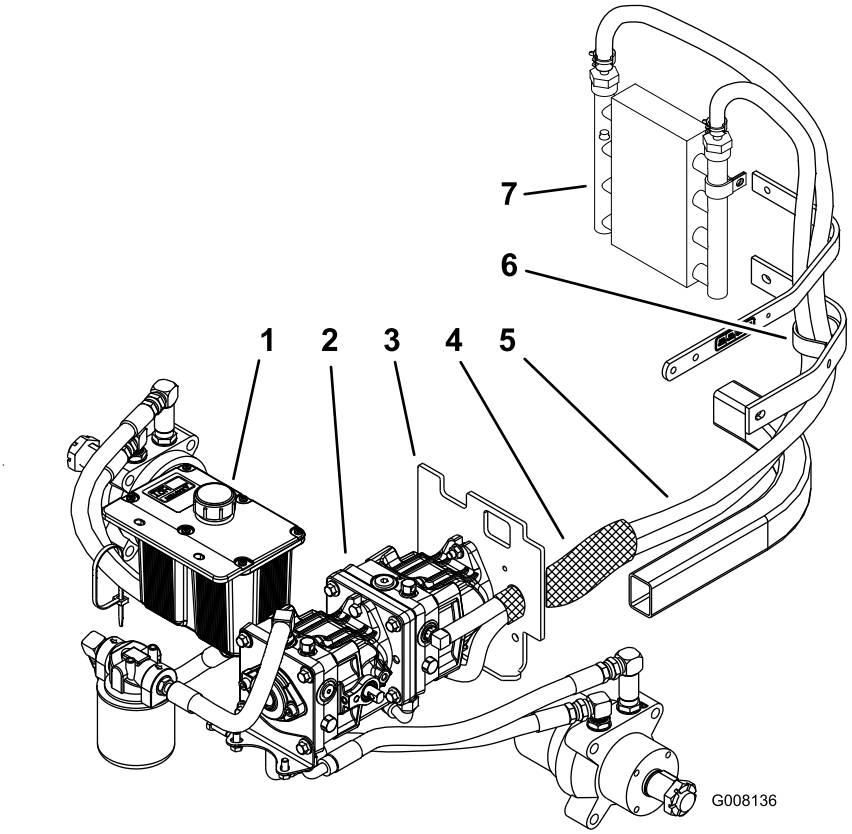

Figure 9

1. Hydraulic oil tank
2. Pumps
3. Pump plate
4. Hose sleeve installed through pump plate
5. Hose
6. R-clamp
7. Oil cooler

3

Installing the Actuator Seals

Parts needed for this procedure:

2	Actuator seal
2	External lock washer

Procedure

1. Loosen the set screw in the actuator arm (Figure 10).
2. Remove the nut holding the actuator to the rod.
3. Remove the actuator arm from the pump.
4. Remove the external lockwasher and seal from the pump (Figure 10).
5. Install the new seal and external lockwasher to the pump.
6. Install the actuator arm with the set screw. Use thread locker on the set screw and torque it to 145 ±20 in-lbs.
7. Install the actuator arm to the rod with the nut (Figure 10).
8. Repeat this procedure for the opposite side.

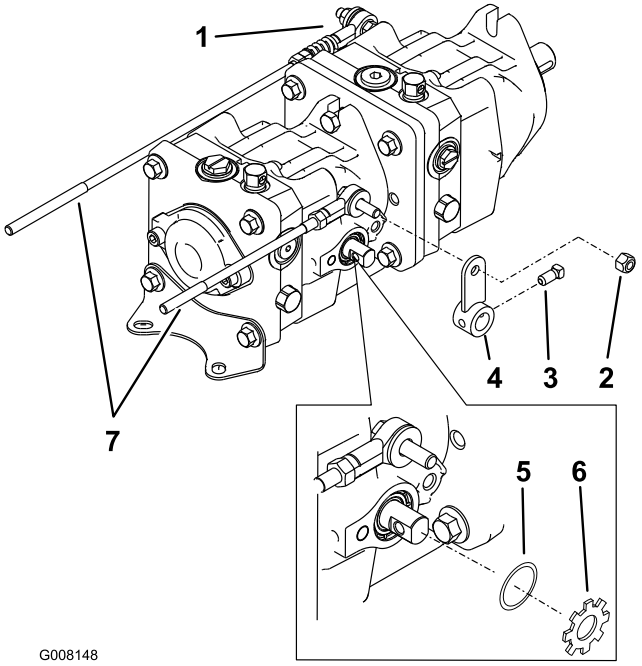

Figure 10

1. Right side actuator
2. Nut
3. Set screw
4. Actuator arm
5. Seal
6. External lock washer
7. Rod

4

Verifying the Connections

No Parts Required

Procedure

Fluid Type: Mobil 1 15W-50 synthetic motor oil or equivalent synthetic oil.

Hydraulic System Oil Capacity: 132 ounces (3.9 l)

Important: Use oil specified or equivalent. Other fluids could cause system damage.

1. Remove the cap from the hydraulic oil tank (Figure 11).
2. Add new fluid to the reservoir until it reaches the cold level of the baffle.
3. Ensure there are no leaks at the fuel hose connections.
4. Start the engine and ensure there are no leaks.
5. Run the machine at low idle for 15 minutes to allow any air to purge out of the system and warm the fluid.
6. Recheck the fluid level while the fluid is warm. The fluid should be between cold and hot.
7. If required, add fluid to the hydraulic tank.

   Note: The fluid level should be to the top of the cold level of the baffle, when the fluid is cold (Figure 11).
8. Install cap on filler neck.

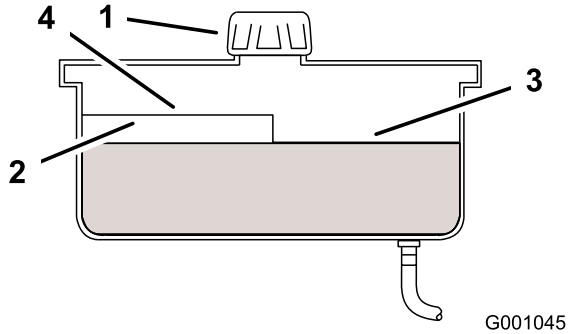

Figure 11

1. Cap
2. Baffle
3. Cold fluid level-full
4. Hot fluid level-full

Notes:

Count on it.