



Fig 13.

Loader Valve

Shovel Tip

When selected, the loader valve section **LV2** controls the shovel tip and close operation. The spool **A** is moved by servo-pressure, oil is sent around its waisted-section to the shovel rams. Because the **A** and **B** ports are interconnected on both sides of the ram pistons, the operating area is the piston-rod and this causes the ram to extend at speed. → [Fig 14. \(□ E-23\)](#).

Shovel Return

When the shovel return servo-pressure is applied to the loader valve section **LV2** the spool **A** is moved to separate the ram pressure and the return lines. → [Fig 14. \(□ E-23\)](#).

The pressure oil is sent to port **B** and the exhaust line to port **A**. The higher pressure is now on the rod side of the piston and this causes the ram to retract.

The service lines are protected by **ARV1** and **ARV2**. The function of the ARVs is in → [Auxiliary Relief Valve Operation \(□ E-26\)](#).