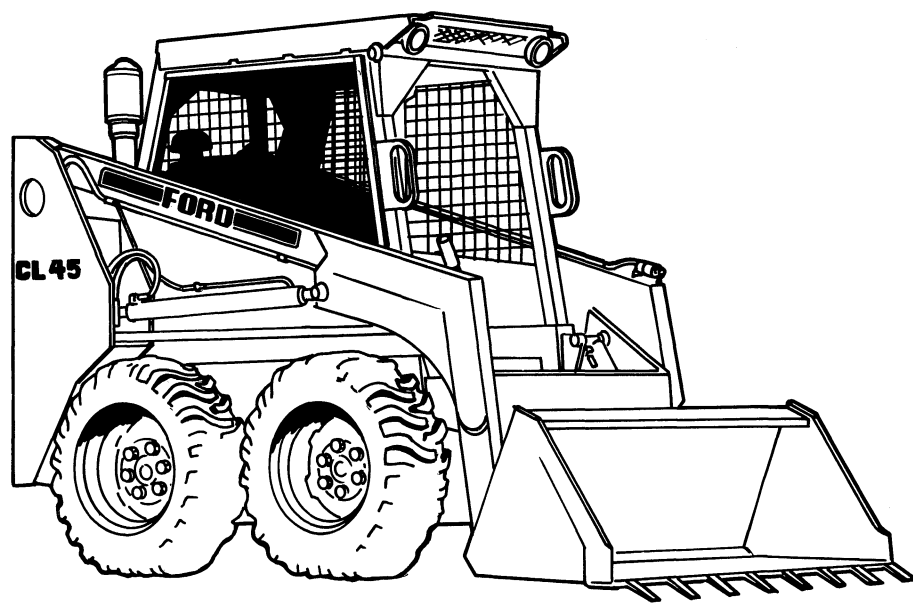


# FORD

## Compact Loader

### CL-35 CL-45



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# repair manual

# SECTION 1    HYDRAULICS

## 1.1.3 Control Functions:

The CL35 compact loader has a rated lift capacity of \*1000 lbs. (454 kg.) to full height. The CL45 has a rated lift capacity of \*1300 lbs. (590 kg.). Operation of the loader hydraulic functions are controlled by three foot pedals (fig. 1.1.3).

**WARNING**

Do not start the engine unless you are in the seat with the seat belt fastened around you.

**Boom Lift** — The L.H. pedal is the boom lift control (fig. 1.1.3). To raise the boom press on the heel (2) of the pedal. To lower the boom press on the toe (1) of the pedal. Firm pressure on the toe (1) of the pedal will lock the boom in float position. This allows the bucket to follow the ground as the loader moves backward.

**Auxiliary Hydraulics** — The center pedal is used to engage the auxiliary hydraulic circuit to power an attachment such as a back hoe. Pressing on the toe (3) of the pedal provides hydraulic pressure to the female quick-connect coupling located at the front of the boom arms. Firm pressure on the toe (3) of the pedal places the valve in detent position providing a continuous flow of hydraulic oil to the attachment. Pressing on the heel of the pedal (4) provides hydraulic pressure to the male quick-connect coupling reversing the flow of hydraulic oil. When the auxiliary circuit is not in use return the foot pedal to neutral position otherwise starting the loader may be difficult or impossible and damage to the starter may occur.

IMPORTANT

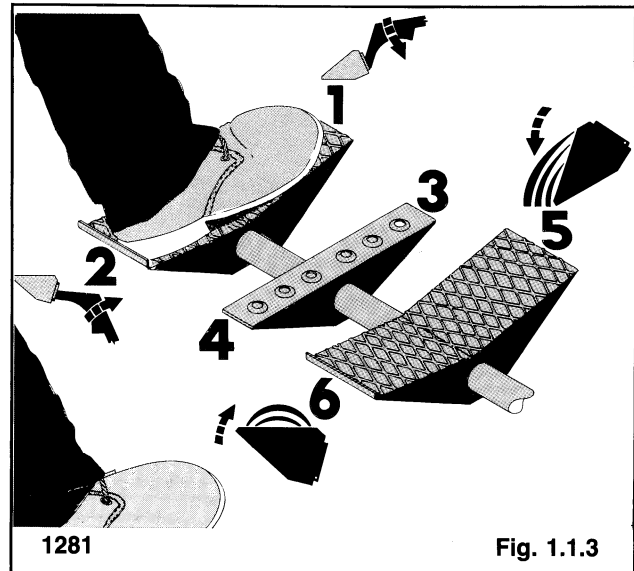
Return auxiliary hydraulic foot pedal to neutral position when not in use.

**WARNING**

Always keep feet on the foot pedal controls while operating the loader.

**Bucket Tilt** — The R.H. pedal is the bucket tilt (dump) control. Pressing on the toe (5) of the pedal will dump the bucket. Pressing on the heel (6) of the pedal will roll the bucket back.

\*with equipment specified in section 8



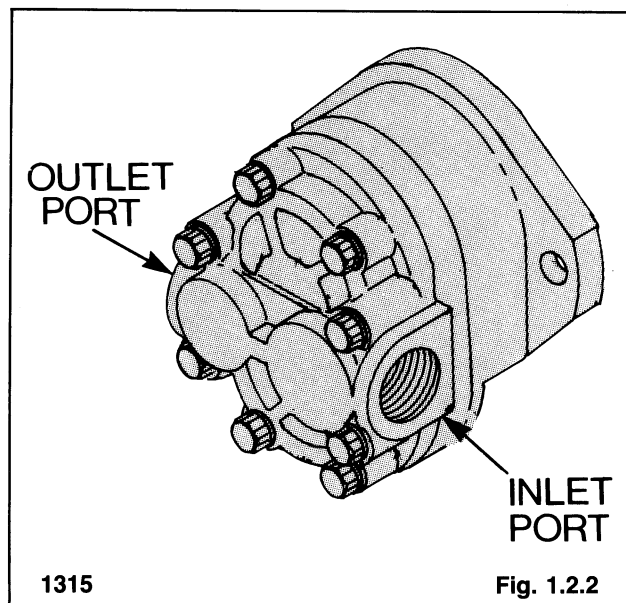
1281

Fig. 1.1.3

## 1.1.4 Maintenance Schedule:

	First (Hours)	Every (Hours)
Oil level, check .....	8	8
Oil filter, change.....	50	200
Oil cooler, clean.....	8	8
General system check (leaks etc.) .....	8	8
Cylinders, lubricate .....	8	8
Reservoir filters, change.....	1000	1000
Hydraulic oil, change .....	1000	1000

## 1.2 GEAR PUMP



1315

Fig. 1.2.2

# SECTION 1 HYDRAULICS

## 1.2.1 Specifications:

	CL35	CL45
Pump, type.....		Gear
Displacement.....	.84 cu. in. (13.8 c.c.)	1.48 cu. in. (24.3 c.c.)
Capacity (at rated speed and pressure).....	9.2 GPM (34.8 l/m)	14.1 GPM (53.4 l/m)
Rated speed (RPM).....	2800	2450
Rated pressure.....	2150 PSI (148 BAR)	
Rotation.....	R.H. (viewed from shaft end)	
Tie bolt torque.....	25-28 ft. lbs. (34-38 N.M.)	

## 1.2.2 General Information:

The hydraulic gear pump (fig. 1.2.2) is mounted at the end of the two hydrostatic piston drive pumps. The splined shaft of the hydraulic gear pump is driven by the internal splined shaft of the front hydrostatic pump at engine crankshaft speed. The output flow of the hydraulic gear pump is directly related to engine speed. Maximum output will be at full rated engine speed.

Oil is drawn from the hydraulic oil reservoir and enters the hydraulic gear pump at the inlet port. The oil is pressurized and is directed through the outlet port to the hydraulic control valve for boom, bucket and auxiliary hydraulic functions.

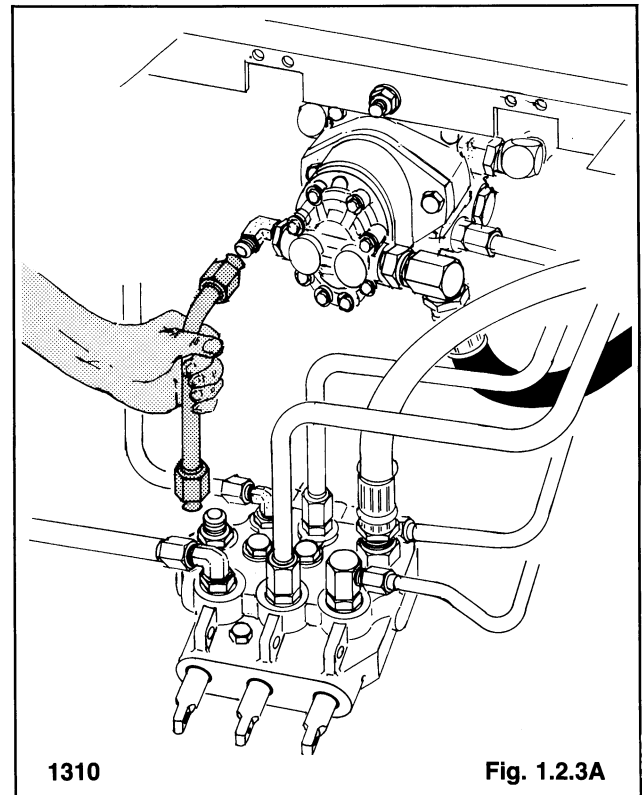
## 1.2.3 Testing — Hydraulic Pump Flow:

Use test equipment which will meet the following performance figures when performing the test:

**Flow Meter** — Capable of reading up to 30 GPM (114 l/m) and equipped with a flow control valve.

**Pressure Gauge** — Capable of reading up to 3000 PSI (206.9 BAR).

1. This test must be performed with the engine running. Before performing the test, block the loader securely with all four wheels clear of the ground.
2. Raise the seat and remove the front shield.
3. Disconnect the line between the hydraulic gear pump and control valve (fig. 1.2.3A).



1310

Fig. 1.2.3A

## IMPORTANT

When making repairs to the hydraulic system, keep all parts clean and remove dirt from the work area. Use caps and plugs on all lines and openings.

4. Connect the hydraulic tester between the gear pump and the hydraulic control valve (fig. 1.2.3B).

The inlet hose from the hydraulic tester connects to the outlet port of the hydraulic gear pump.

The outlet hose from the tester connects to the control valve inlet port. Ensure the flow control on the hydraulic tester is fully open before starting the engine to prevent damage to the gear pump.



## WARNING

Never repair or tighten hydraulic hoses or fittings with the engine running or the system under pressure.

## IMPORTANT

There is no relief valve protecting the pump when the tester is connected. To prevent pump damage do not close the valve on the tester all the way or exceed 2150 PSI (148 BAR).

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