MC1150E
Full Track Tractor

Service Manual

8-72810

CASE CONSTRUCTION

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1001

SAFETY RULES
SERVICE MANUAL INTRODUCTION
AND
TORQUE SPECIFICATIONS

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CASE CORPORATION

8-42850

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SAFETY RULES

This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death. 1-1-C

IMPORTANT: *To prevent injury on the job, follow the Warning, Caution, and Danger notes in this section and other sections throughout this manual. Follow the instructions carefully.*

The procedures recommended and shown in this manual are good, effective service methods. However, all possible procedures and service hazards may not be covered. Therefore, if you use a tool or procedure not recommended, you must make sure that the method you select is a safe method.

Put the warning tag shown below on the key for the key switch when you are servicing or repairing this machine. One warning tag is on every new machine. You can buy additional warning tags, part number 331-4614, from Service Parts Supply.



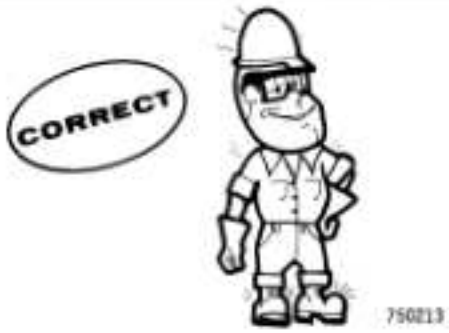
DANGER: *Engine exhaust fumes can cause death. If it is necessary to start the engine in a closed place, remove the exhaust fumes from the area with an exhaust pipe extension. If you do not have an exhaust pipe extension, open the doors and get outside air into the area.* 48-56

WARNING: *Read operator's manual to familiarize yourself with control lever functions.* 46-27

WARNING: *Operate tractor and equipment controls from the seat position only. Any other method could result in serious injury.* 48-55

WARNING: *This is a one man machine, no riders allowed.* 35-8

WARNING: *If you wear clothing that is too loose or do not use the correct safety equipment for your job, you can be injured. Always wear clothing that will not catch on objects. Extra safety equipment that can be required includes hard hat, safety shoes, ear protection, eye or face protection, heavy gloves and reflector clothing.* 45-3-A



WARNING: *Operate controls from the operator's seat only.* 35-7

WARNING: *When working in the area of the fan belt with the engine running, avoid loose clothing if possible, and use extreme caution.* 35-4

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WARNING: *Whenever the bucket must be raised to aid in servicing, block the loader arms in place with lift cylinder support strut or a suitable safety stand.* 23-7-B



WARNING: *When doing checks and tests on the equipment hydraulics, follow the procedures as they are written. DO NOT change the procedure.* 47-44

WARNING: *When putting the hydraulic cylinders on this machine through the necessary cycles to check operation or to remove air from a circuit, make sure all people are out of the way.* 47-45

WARNING: *Use insulated gloves or mittens when working with hot parts.* 47-41A

CAUTION: *Pin sized and smaller streams of hydraulic oil under pressure can penetrate the skin and result in serious infection. If hydraulic oil under pressure does penetrate the skin, seek medical treatment immediately. Maintain all hoses and tubes in good condition. Make sure all connections are tight. Make a replacement of any tube or hose that is damaged or thought to be damaged. DO NOT use your hand to check for leaks; use a piece of cardboard or wood.* 40-6-A

CAUTION: *When removing hardened pins such as a pivot pin, or a hardened shaft, use a soft head (brass or bronze) hammer or use a driver made from brass or bronze and a steel head hammer.* 46-17

CAUTION: *When using a hammer to remove and install pivot pins or separate parts, using compressed air or using a grinder, wear eye protection that completely encloses the eyes (approved goggles or other approved eye protectors).* 46-13

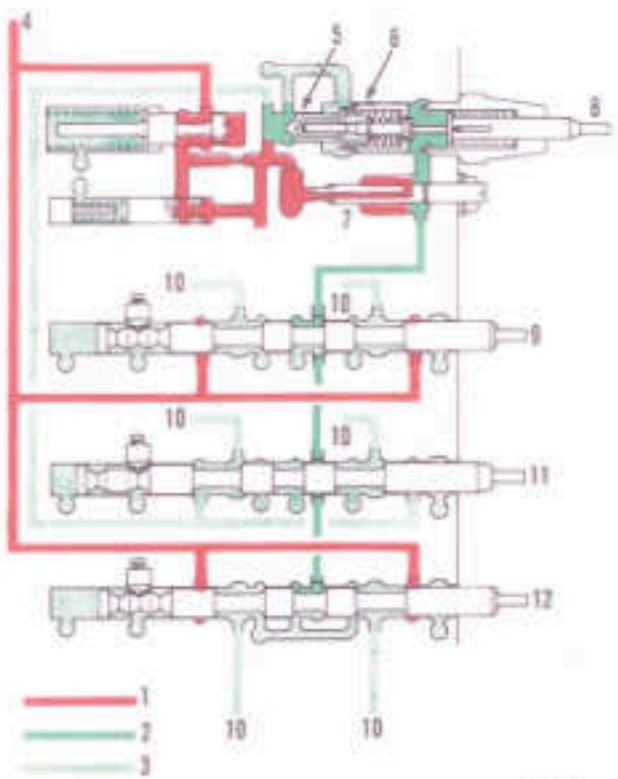
CAUTION: *When servicing or repairing the machine, keep the shop floor and operator's compartment and steps free of oil, water, grease, tools, etc. Use an oil absorbing material and/or shop cloths as required. Use safe practices at all times.* 40-8

CAUTION: *Use suitable floor (service) jacks or chain hoists to raise wheels or track off the floor. Always block machine in place with suitable safety stands.* 40-7-A

CAUTION: *Some components of this machine are very heavy. Use suitable lifting equipment or additional help as instructed in this service manual.* 40-10

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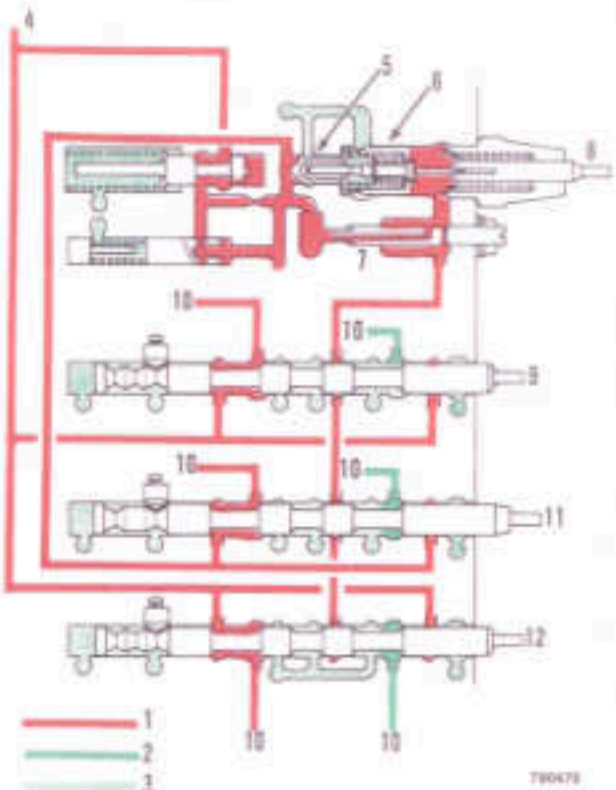
In this example the direction of the machine is being changed from reverse to forward while the machine is moving. The left direction spool and the right direction spool are moved into the transmission control valve. Modulation occurs as the direction spools move through neutral and into the forward position. See Figure 4. As the direction spools move through neutral, the direction spools open a passage from the modulator to the reservoir. The oil behind the large piston in the modulator flows to the reservoir. The oil from the charging pump pushes the small piston in the modulator which opens a passage so that the oil from the charging pump flows to the reservoir.



1. PUMP FLOW
2. RETURN OIL
3. STATIC OIL AND OIL TO THE RESERVOIR
4. FROM CHARGING PUMP
5. SMALL PISTON
6. LARGE PISTON
7. MODULATOR ORIFICE
8. MODULATOR
9. LEFT DIRECTION SPOOL
10. TO AND FROM CLUTCHES
11. RANGE SPOOL
12. RIGHT DIRECTION SPOOL

Figure 4

See Figure 5. When the direction spools move into the forward position, the direction spools close the passage to the reservoir. The oil flowing through the modulator orifice can no longer flow to the reservoir. The pressure behind the large piston increases slowly and the large and small pistons in the modulator move to close the passage to the reservoir. As the pistons in the modulator close, the pressure in the circuit from the modulator to the range spool increases slowly and the high range clutch is slowly engaged.



1. PUMP FLOW
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12. RIGHT DIRECTION SPOOL

Figure 5

Modulation also occurs when both brake pedals are pushed down. As both brake pedals are pushed, the small pedal between the right and left brake pedals is also pushed down. This pedal is connected to the spool in the modulator. See page 6002-18 for a description of this condition.

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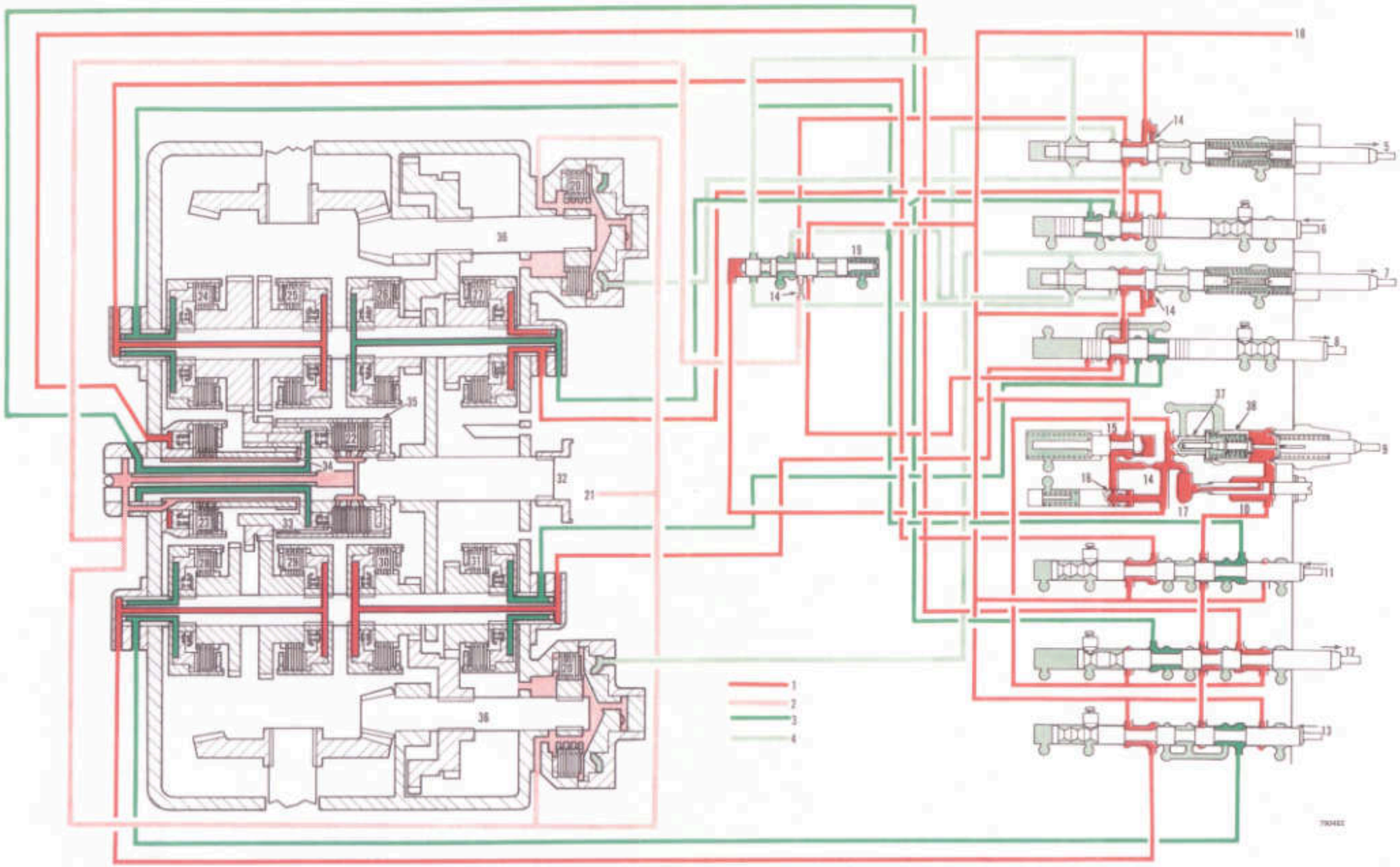


Figure 9

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