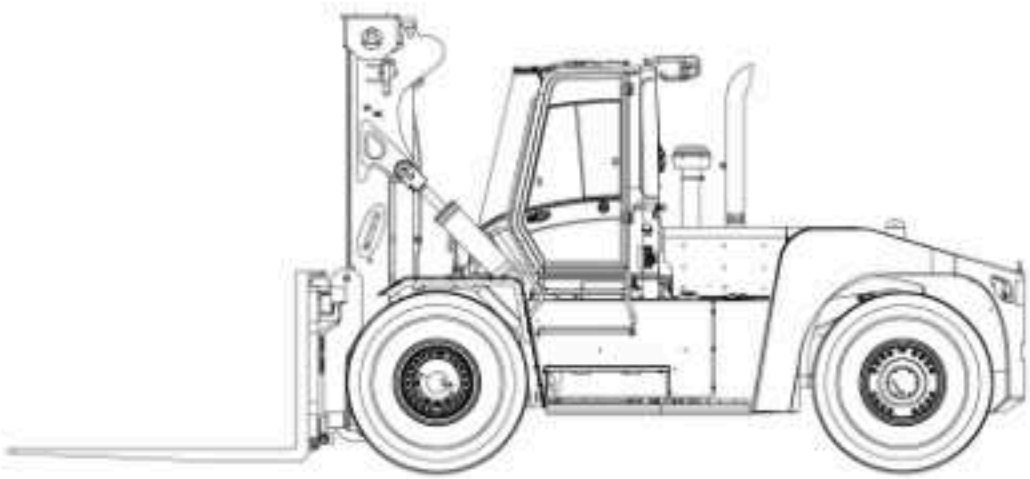
SERVICE MANUAL

G008 (H550HD, H650HD, H700HD, H550HDS, H650HDS, H700HDS)



Rev. 06/14

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This section is for the following models:

H25-32XM-12, H28XM-16CH,H32XM-16CH, H25-32XMS-9 (H550-700HD, H550-700HDS) [F008, G008]

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Troubleshooting

GENERAL

Before performing the following troubleshooting procedures, determine if there are any APC200 fault codes. If fault codes are present, correct/repair the problem and determine if the repair resolves the original problem. Refer to the manual **TE-17 Transmission** 1300SRM1392 for the procedures on how to retrieve the fault codes and for the description on how the transmission operates.

PROBLEM	POSSIBLE CAUSE	PROCEDURE OR ACTION
Low clutch pressure.	Low oil level.	Fill to proper level.
	Clutch pressure regulating valve stuck open.	Clean valve spool and housing.
	Faulty charging pump.	Replace charging pump.
	Broken or worn clutch shaft or piston rings.	Replace piston rings and/or clutch shaft.
	Intensifier spool stuck.	Clean intensifier spool thoroughly.
Low charging pump output flow.	Low oil level.	Fill to proper level.
	Suction tube plugged.	Clean suction tube.
	Faulty charging pump.	Replace charging pump.
Overheating	Worn oil sealing rings.	Replace/Rebuild torque converter assembly.
	Worn charging pump.	Replace charging pump.
	Low oil level.	Fill to proper level.
	Dirty oil cooler.	Clean cooler.
	Restriction in cooler lines.	Change cooler lines.
Noisy convertor.	Worn charging pump.	Replace charging pump.
	Worn or damaged bearings.	A complete disassembly of the transmission will be necessary to determine which bearing is faulty.

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Lift Truck Weights

Model	Weight
H25XM-12/H550HD	28,392 kg (62,593 lb)
H28XM-12/H620HD	33,532 kg (73,925 lb)
H30XM-12/H650HD	34,142 kg (75,270 lb)
H32XM-12/H700HD	33,756 kg (74,419 lb)
H25XMS-9/H550HDS	27,985 kg (61,696 lb)
H30XMS-9/H650HDS	33,301 kg (73,416 lb)
H32XMS-9/H700HDS	33,911 kg (74,761 lb)
H28XMS-9/H620HDS	31,780 kg (70,062 lb)
H36XM-12/H800HD	37,188 kg (81,985 lb)
Based on open cab, 10% fuel, 100% hydraulic oil and Bridgestone tires.	

COUNTERWEIGHT

Model	CounterWeight
H25XM-12	14,000 kg (30,864 lb)
H28XM-12	15,885 kg (35,020 lb)
H30XM-12	15,885 kg (35,020 lb)
H32XM-12	15,885 kg (35,020 lb)
H25XMS-9	14,000 kg (30,864 lb)
H30XMS-9	15,885 kg (35,020 lb)
H32XMS-9	15,885 kg (35,020 lb)
H28XMS-9	15,885 kg (35,020 lb)
H36XM-12	15,885 kg (35,020 lb)

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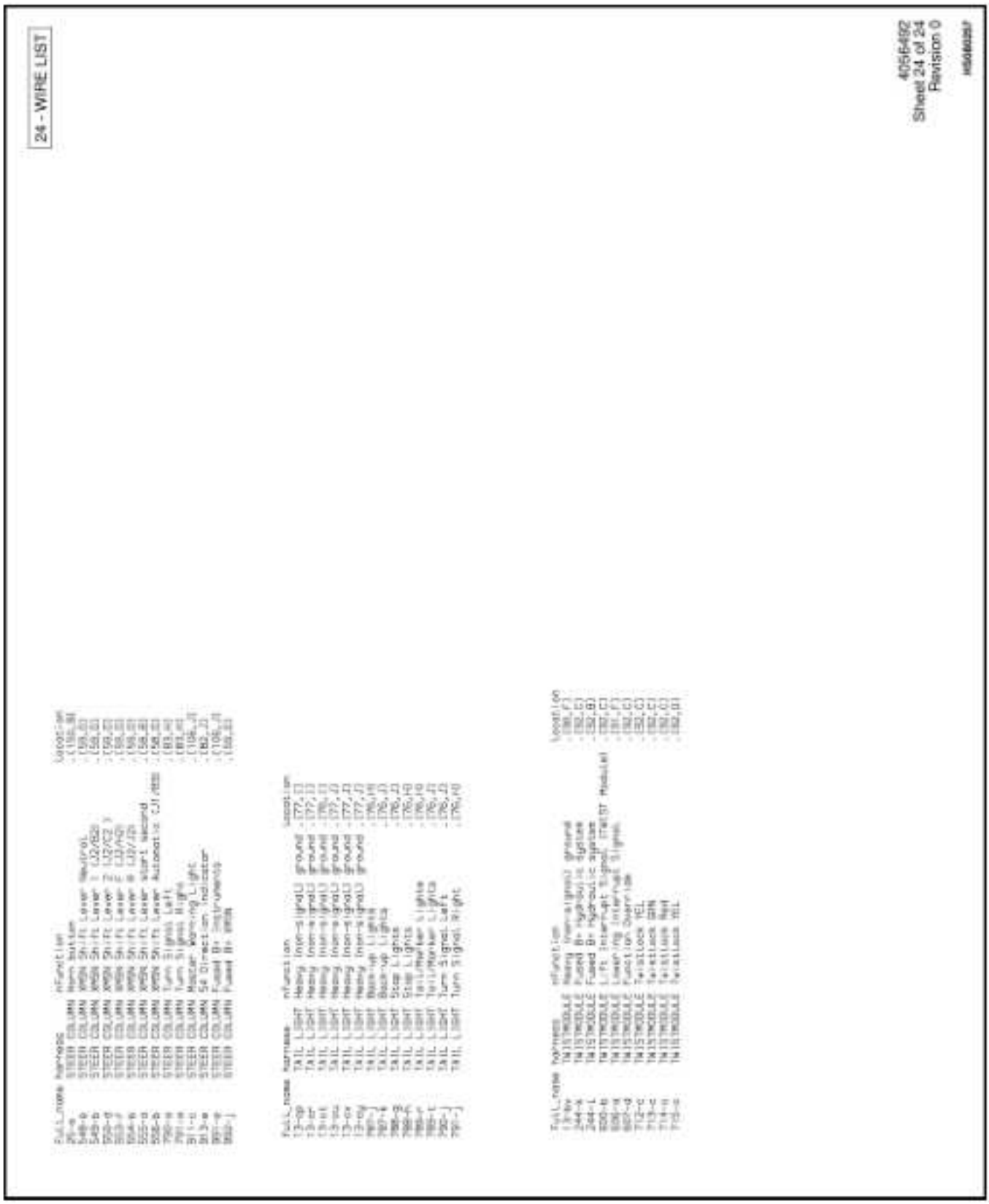


Figure 4. Electrical Schematic - 25-32T Tier 4i (Sheet 24 of 24)

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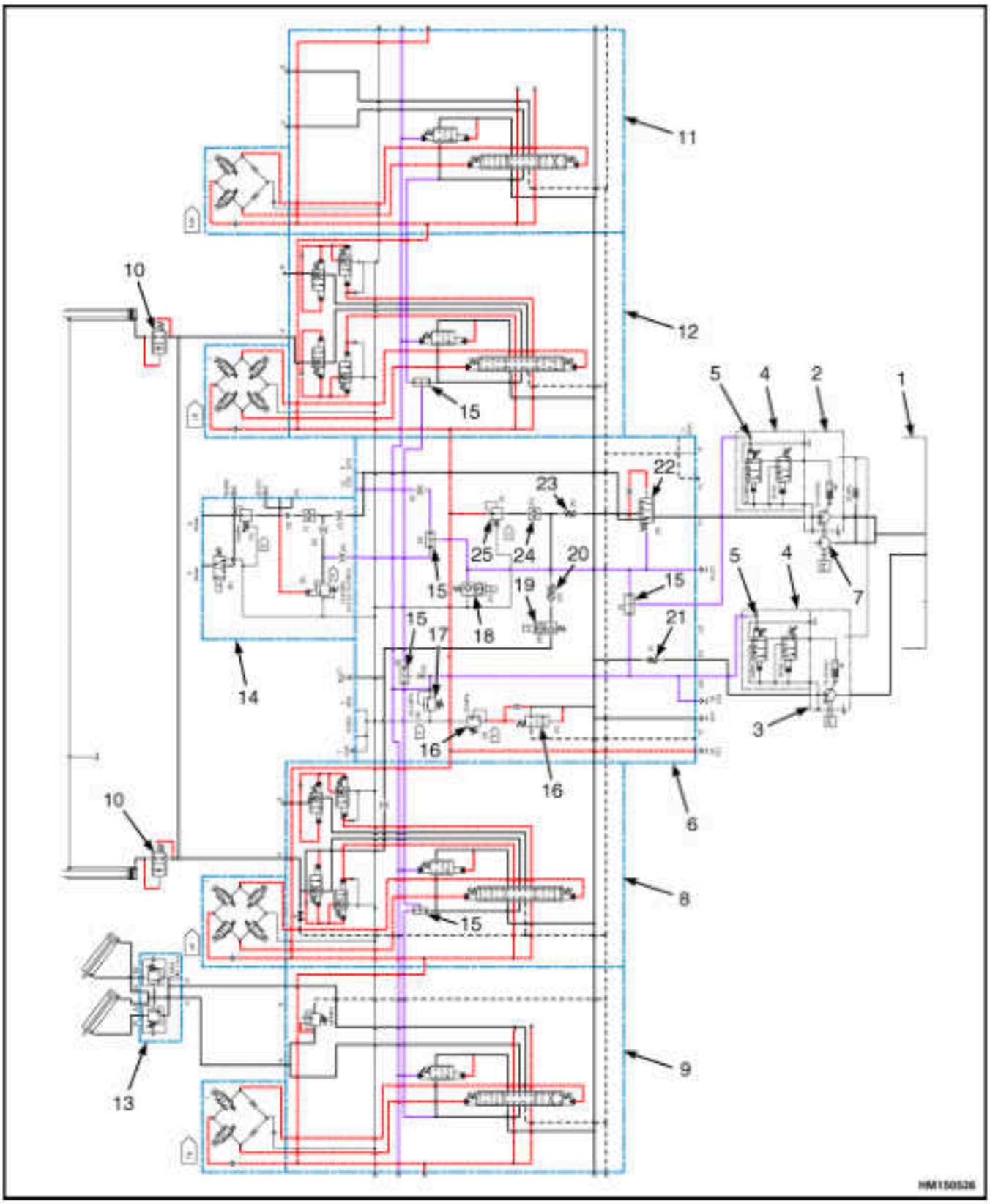
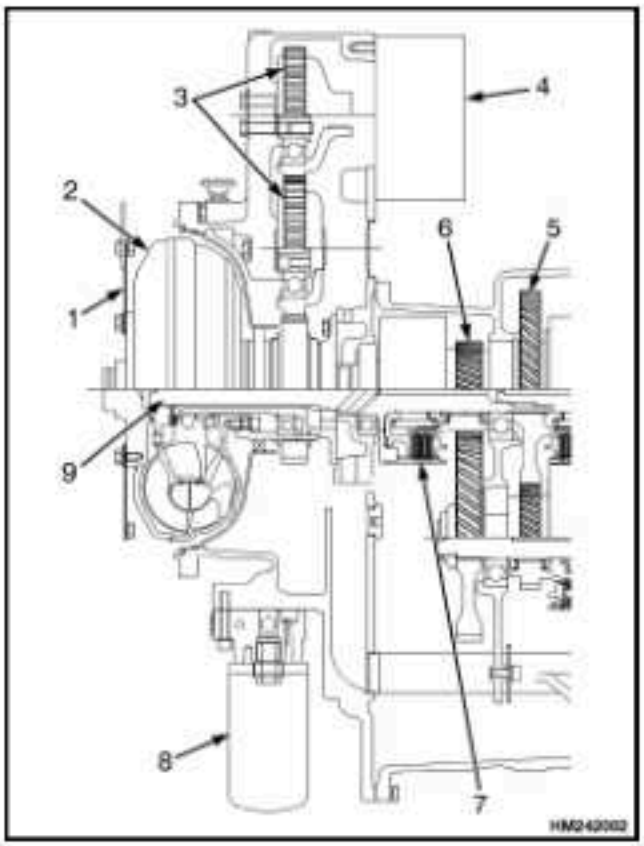


Figure 15. Hydraulic Components Location

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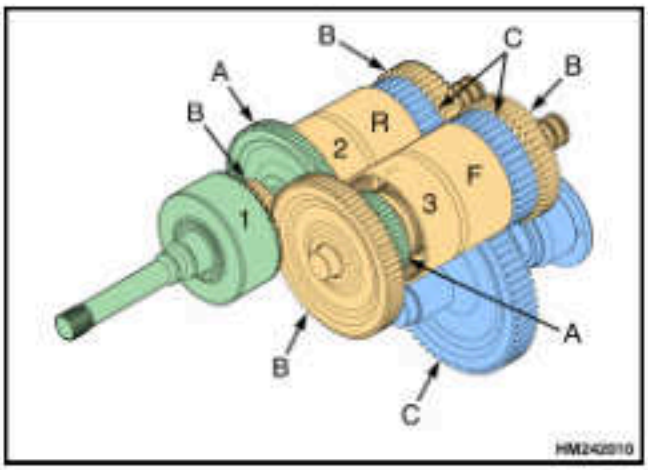
The different speed ratios between input shaft and drive shaft are obtained by engaging and disengaging the different clutches. Clutch engagement is controlled by the APC216 Control System, which activates and deactivates solenoids in the control valve.

Three groups of gears are continuously engaged with each other: the input gears, the interconnecting gears, and the output gears. See Figure 2.



1. DRIVE PLATE
2. TORQUE CONVERTER
3. PUMP DRIVE GEAR
4. TRANSMISSION PUMP
5. INPUT GEAR
6. INTERCONNECTING GEAR
7. CLUTCH
8. TRANSMISSION FILTER
9. TRANSMISSION INPUT SHAFT

Figure 1. Transmission Input Section



A. INPUT GEARS
B. INTERCONNECTING GEARS
C. OUTPUT GEARS

Figure 2. Gear Engagement

If clutches belonging to one group would be engaged simultaneously, the transmission would lock. Erroneous clutch engagement is prevented by the transmission control system.

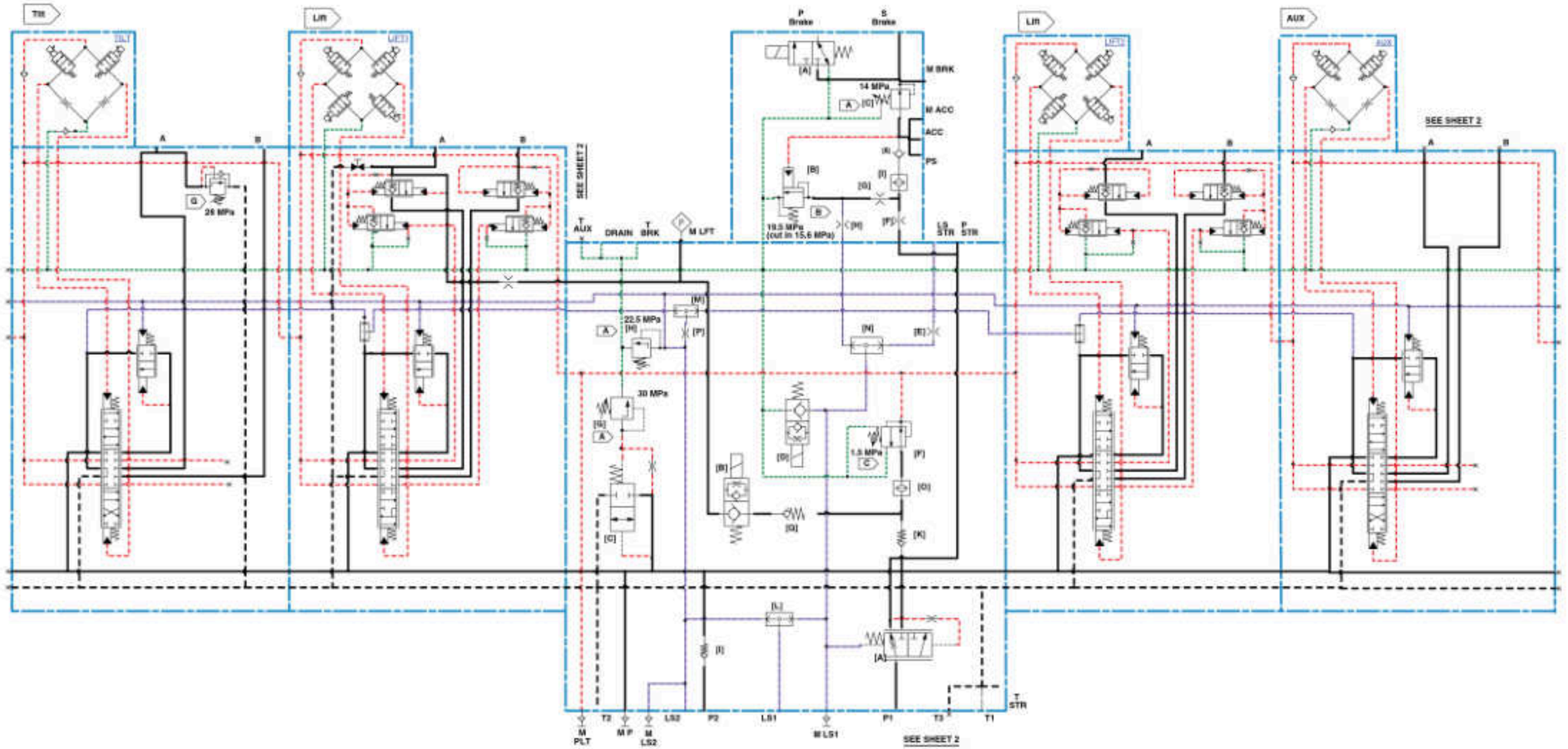
Different speeds are obtained by engaging either the forward or the reverse clutch, and by engaging the 1st, 2nd, or 3rd speed clutch.

When the transmission is in **NEUTRAL**, the forward clutch and the reverse clutch are disengaged, while one of the speed clutches remains engaged.

The clutches consist of a hub which carries friction discs with internal splines, and a drum which carries steel discs with external splines. See Figure 3.

The friction discs and the steel discs are alternately installed. By pressurizing the clutch piston, the friction discs and the steel discs are clamped together, which causes the hub and the drum to rotate as one unit. When hydraulic pressure is released, the return springs force the piston back against the clutch housing and allows the hub and drum to rotate independently. The drum, steel discs, piston, spacer, and return springs rotate at the same speed. The hub and friction discs rotate at the same speed.

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Figure 6. Main Control Valve Schematic, Item 1

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