FIAT-HITACHI

COMPACT LINE

FB90.2 FB100.2 FB110.2 FB200.2 4WS

WORKSHOP MANUAL

Print 604.13.028 edition 09/2000

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CONTENTS

SECTION 00 – HEALTH, SAFETY, MAINTENANCE

CHAPTER 1 – General

Description	Page
General Safety Instructions	1

CHAPTER 2 – General Specifications

Description	Page
General Specifications	1

CHAPTER 3 – Tooling

Description	Page
Tooling and Applications	1

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SECTION 10 – ENGINE – NEW HOLLAND 92 to 108 hp

CHAPTER 1 – Engine

Description	Page
Specifications	1
Fault Finding	11
Overhaul	18

CHAPTER 2 – Fuel System

Description	Page
Fuel System	1
Air Cleaner	13
Lift Pump	19
Injectors	23
Fuel Pump	31

CHAPTER 3 – Turbocharger

General Specifications	1
Fault Finding	5
Overhaul	8
Manifolds	15

CHAPTER 4 – Lubrication System

Description	Page
General Specifications	1
Fault Finding	4
Overhaul	5

CHAPTER 5 – Cooling System

Description	Page
General Specifications	1
Fault Finding	4
Overhaul	5

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SECTION 17 – TORQUE CONVERTER

CHAPTER 1 – With Powershuttle Transmission

Description	Page
General Specifications	1
Overhaul	4

CHAPTER 2 – With Powershift Transmission

Description	Page
General Specifications	1
Overhaul	4

SECTION 21 – TRANSMISSIONS

CHAPTER 1 – 4x4 Compact Shuttle

Description	Page
General Specifications	1
Description and Operation	5
Overhaul	28

CHAPTER 2 – Powershift Introduction

Description	Page
General Specifications	1
Description and Operation	2
Removal	35

CHAPTER 3 – Powershift Operating Lever

Description	Page
General Specifications	1
Fault Finding	14

CHAPTER 4 – Powershift Overhaul (includes 4 Wheel Steer)

Description	Page
General Specifications	1
Fault Finding	5
Overhaul	8

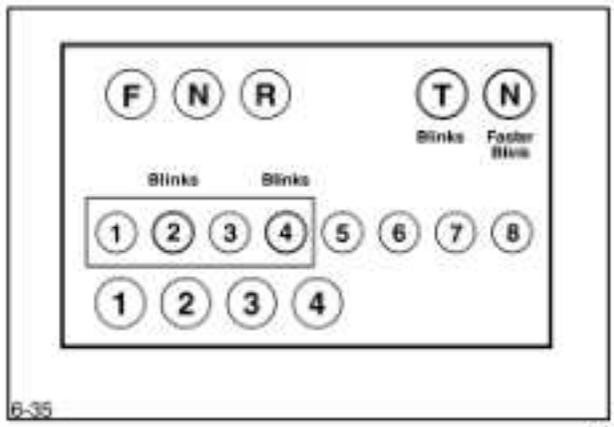
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FAULT CODE – F5 AND F6

OPEN CIRCUIT DIRECTION OUTPUTS

Direction selection related outputs (E06–Pin P, E07–Pin N):

A short to plus is considered as a critical fault. Shorts to plus usually result in being blocked in either Forward or Reverse. If both are on simultaneously, the transmission Behaviour depends on the state of a mechanical interlock inside the transmission



38

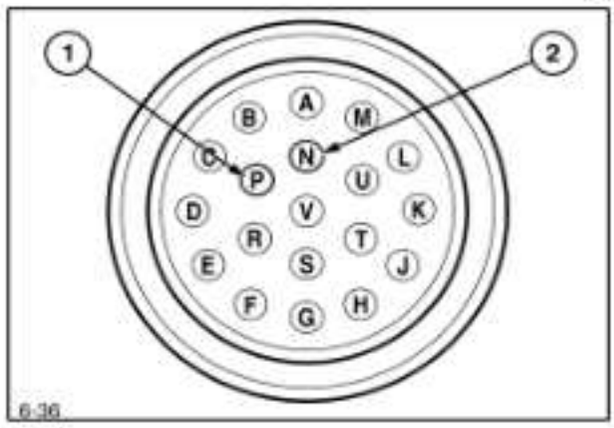
In this case the Microprocessor normally turns on the pressure modulator (E03–Pin T). This results in immediate selection of neutral regardless of the origin of the fault. Indeed even in case the short to plus is applied externally, this response effectively blocks the transmission in neutral.

If however at the time the fault was detected a fault was also present on the pressure modulator, the Microprocessor reverts to shutdown mode and remains this way until power is removed. Shutdown mode is a state in which power is removed from the Microprocessor outputs by opening the internal redundant shutdown path.

This only helps if the fault was caused by the Microprocessor internally.

Additionally, during program execution, critical variables are continuously checked for contents integrity.

NOTE: *To determine output faults proceed to pages 26 to 29.*



39

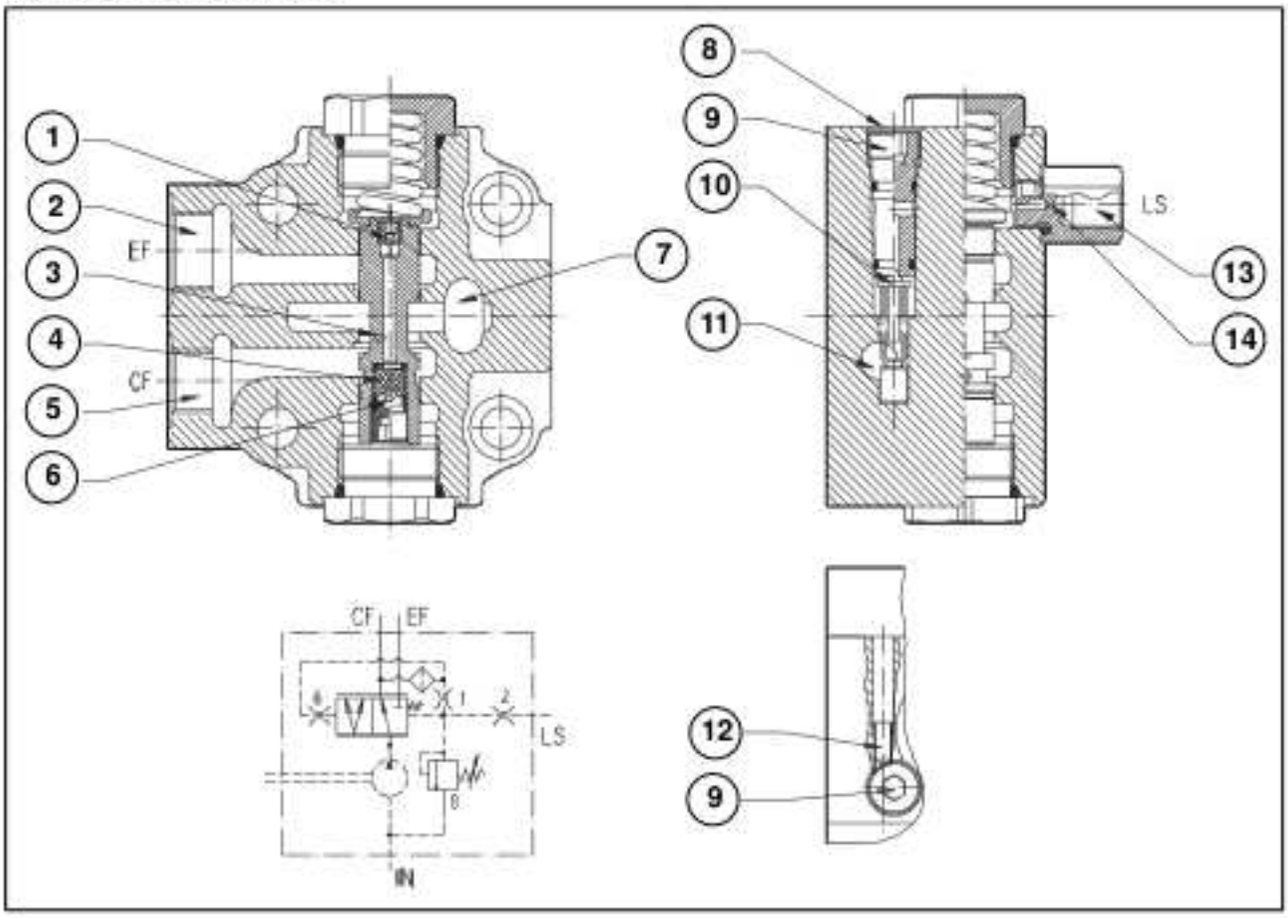
Gear Shifts

low/high solenoid :
inactive ⇒ forward high is selected
active ⇒ forward low is selected

Shift diagram – Solenoids	Forward				Reverse.	
	1	2	3	4	1	2
rev/n					•	•
fwd/n	•	•	•	•		
low/high	•	•				
1st/2nd	•		•		•	

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LOAD SENSING VALVE



4

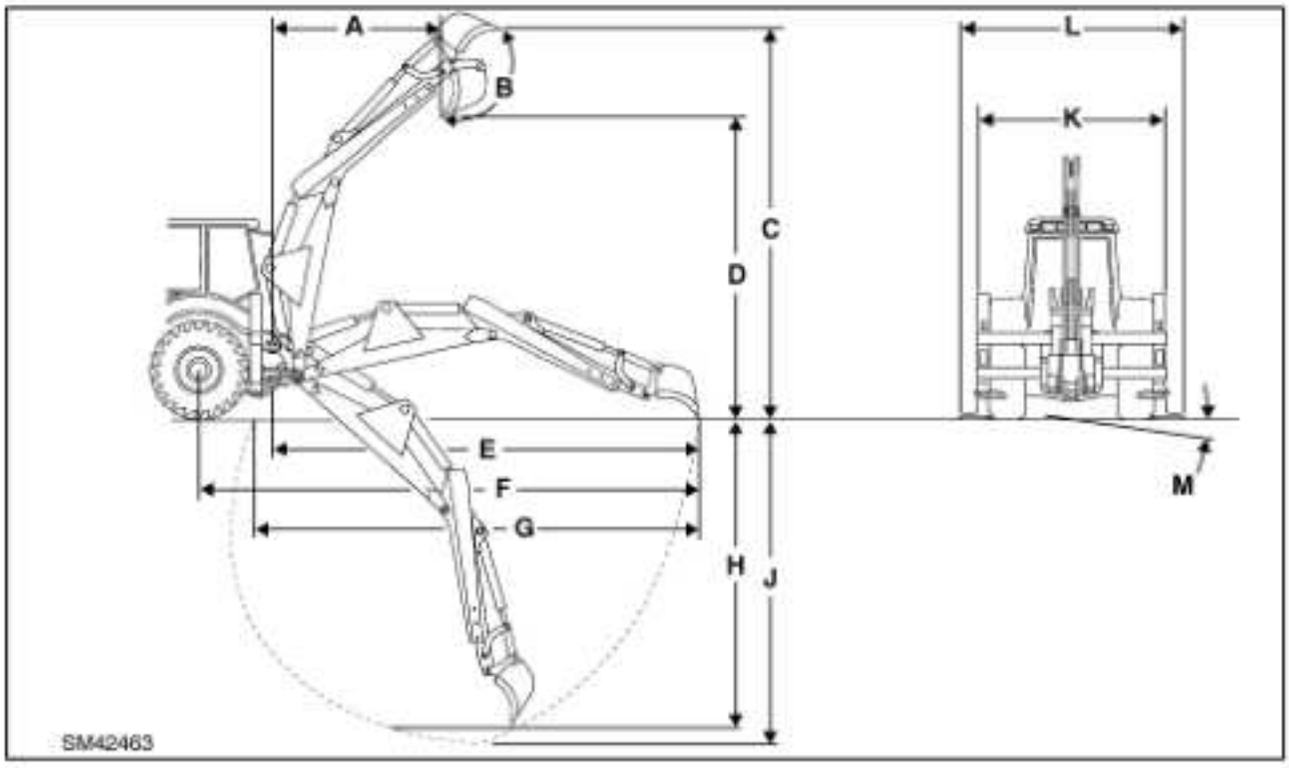
Load Sensing Valve (with pump not running)

1. Orifice
2. To steering priority flow (EF)
3. Filter
4. Spool
5. Backhoe Circuits (CF)
6. Orifice
7. Inlet Port from Rear Pump (IN)
8. Steering Relief Valve
9. Relief Valve Adjuster
10. Poppet
11. Return to Inlet Pump Port
12. Lock Plug
13. Load Sensing Signal (LS)
14. Orifice

When the steering is in neutral the LS port is connected to the unload (through the steering) and the steering inlet port (CF) is open.

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SIDESHIFT BACKHOE – DIMENSIONS AND PERFORMANCE MODELS 115, 200.2



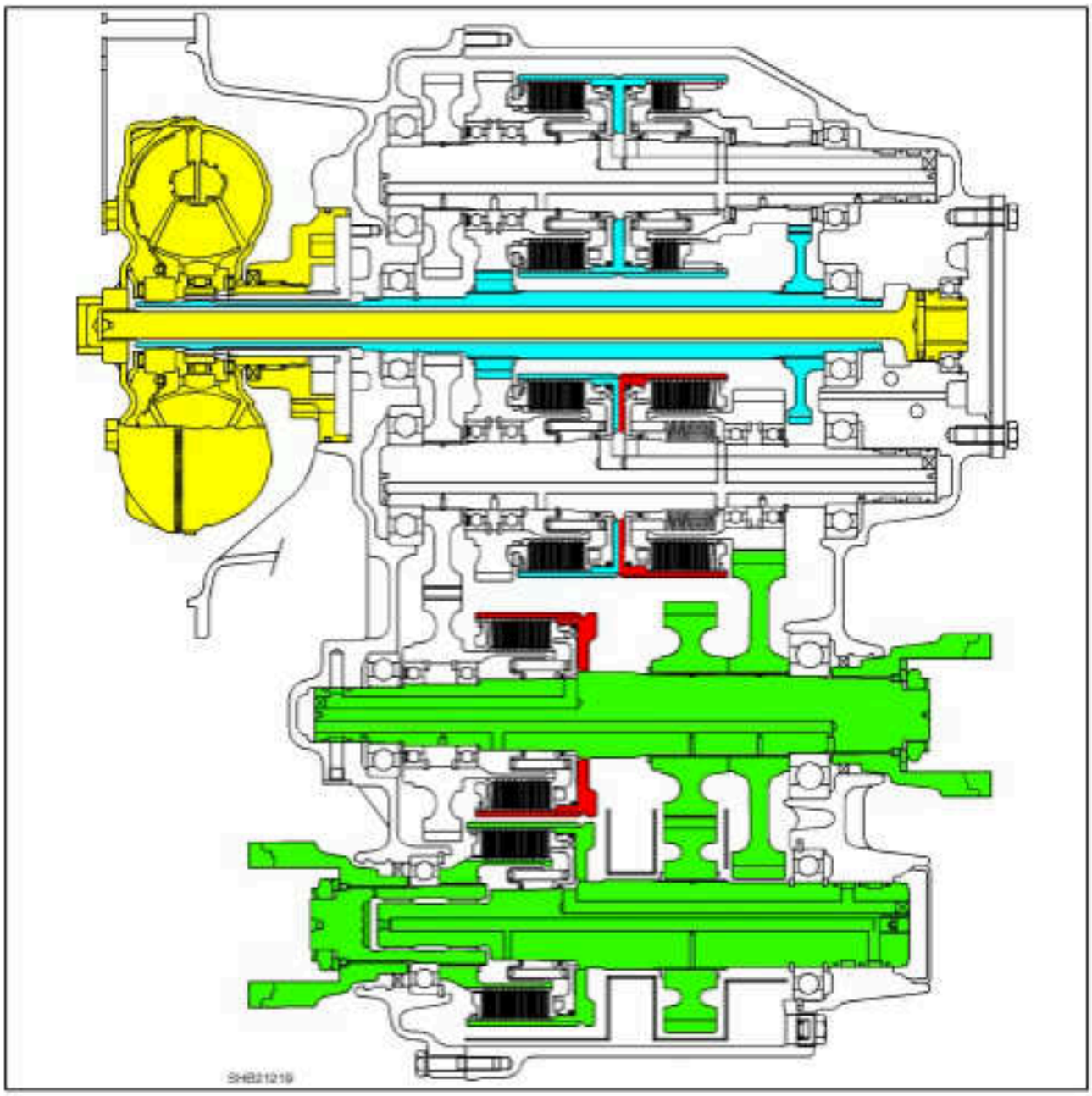
(Per SAE J 49) WITH TYRES **FRONT AND REAR = 440/80R28**

	Backhoe	Standard Dipper	HED Extended
A.	Loading Reach	1877mm (6ft .1in)	2818mm (9ft 2in)
B.	Bucket Rotation	204°	204°
C.	Operating Height, Fully Raised	5717mm (18ft 6in)	6374mm (20ft 7in)
D.	Loading Height Maximum	3905mm (12ft 7in)	4593mm (14ft 9in)
E.	Reach from Swing Post Pivot	5867mm (19ft 1in)	6952mm (22ft 6in)
F.	Reach from Rear Axle C/L	7193mm (23ft 4in)	8278mm (26ft 9in)
G.	Max Length Surface Excavation	6492mm (21ft 1in)	7500mm (25ft 0in)
H.	Maximum Digging Depth To Achieve a 0.6m Flat Bottom Trench To Achieve a 2.4m Flat Bottom Trench	 4598mm (15ft 1in) 4255mm (14ft 0in)	 5771mm (18ft 9in) 5505mm (18ft 1in)
J.	Maximum Digging Depth	4302mm (14ft 1)	5527mm (18ft 1in)
K.	Stabilizer Spread – Transport	2280mm (7ft 5in)	2280mm (7ft 5in)
L.	Stabilizer Spread (pads reversed)	2790mm (9ft 2in)	2790mm (9ft 2in)
M.	Stabiliser Pad Levelling Angle	14°	14°
–	Swing Arc	180°	180°
–	Max digging force (general purpose bucket) crowd cylinder (ICED) bucket cylinder (ICED)	 3621 kg (7983 lbs) 5630 kg (12412 lbs)	 2592 (5714 lbs) 5630 kg (12412 lbs)
–	Lift capacity through dipper arc –	2350 kg (5190 lbs)	1625 kg (3585 lbs)
–	Lift capacity, dipper 3.66m above ground	2425 kg (5945 lbs)	1625 kg (2409 lbs)
–	Lift capacity at 4.2m (14ft) above ground	1500 kg (3305 lbs)	995 kg (2195 lbs)
–	Extendible dipper extension length–		1.2m (3.9 ft)

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TRANSMISSION ASSEMBLY

Basically the transmission is composed of five main assemblies:



6

4 Wheel Drive Transmission – 2 Wheel Steer

Converter and pump drive section

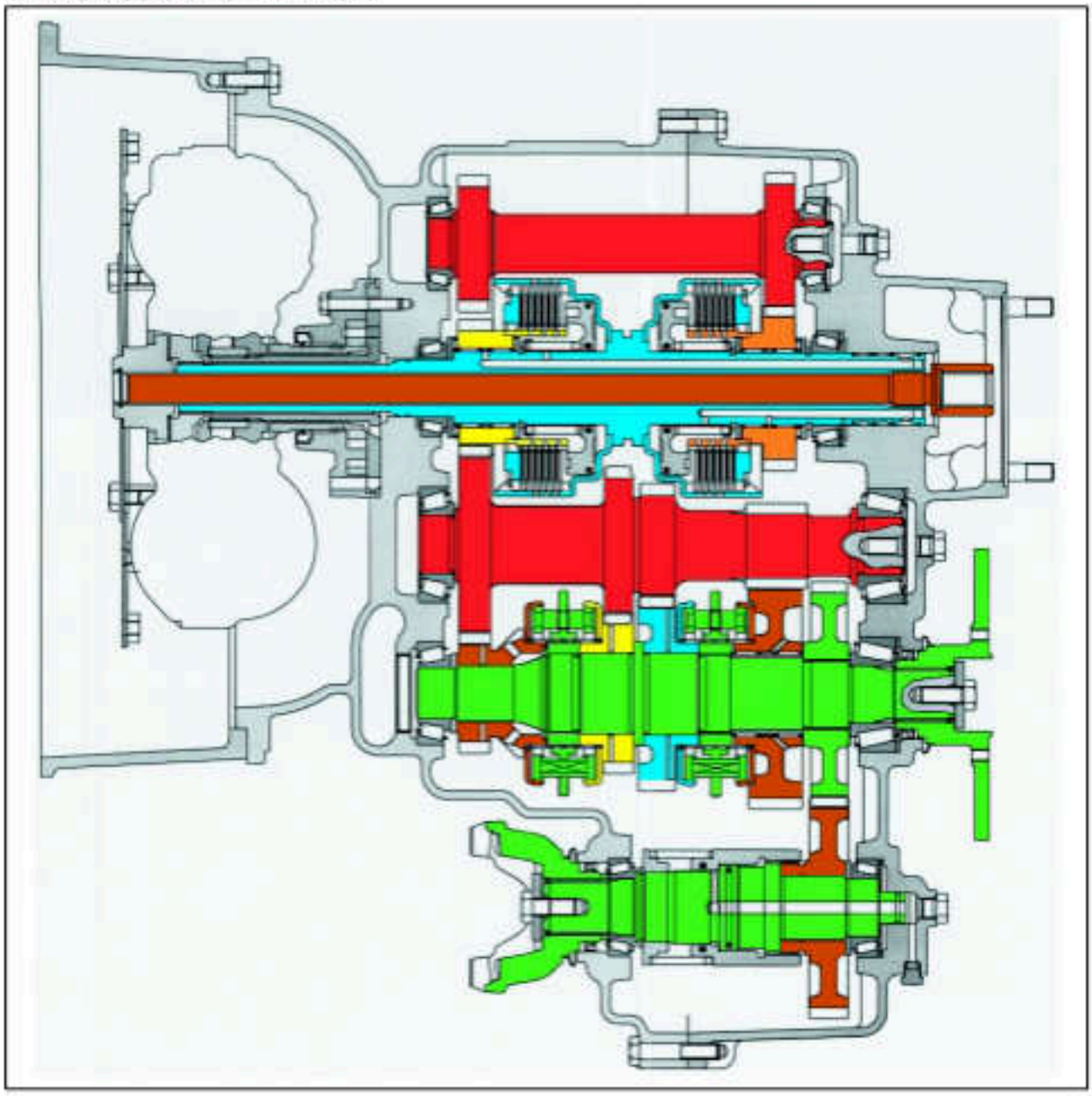
Input or directional clutches

Range clutches

Output section

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TRANSMISSION POWER FLOW



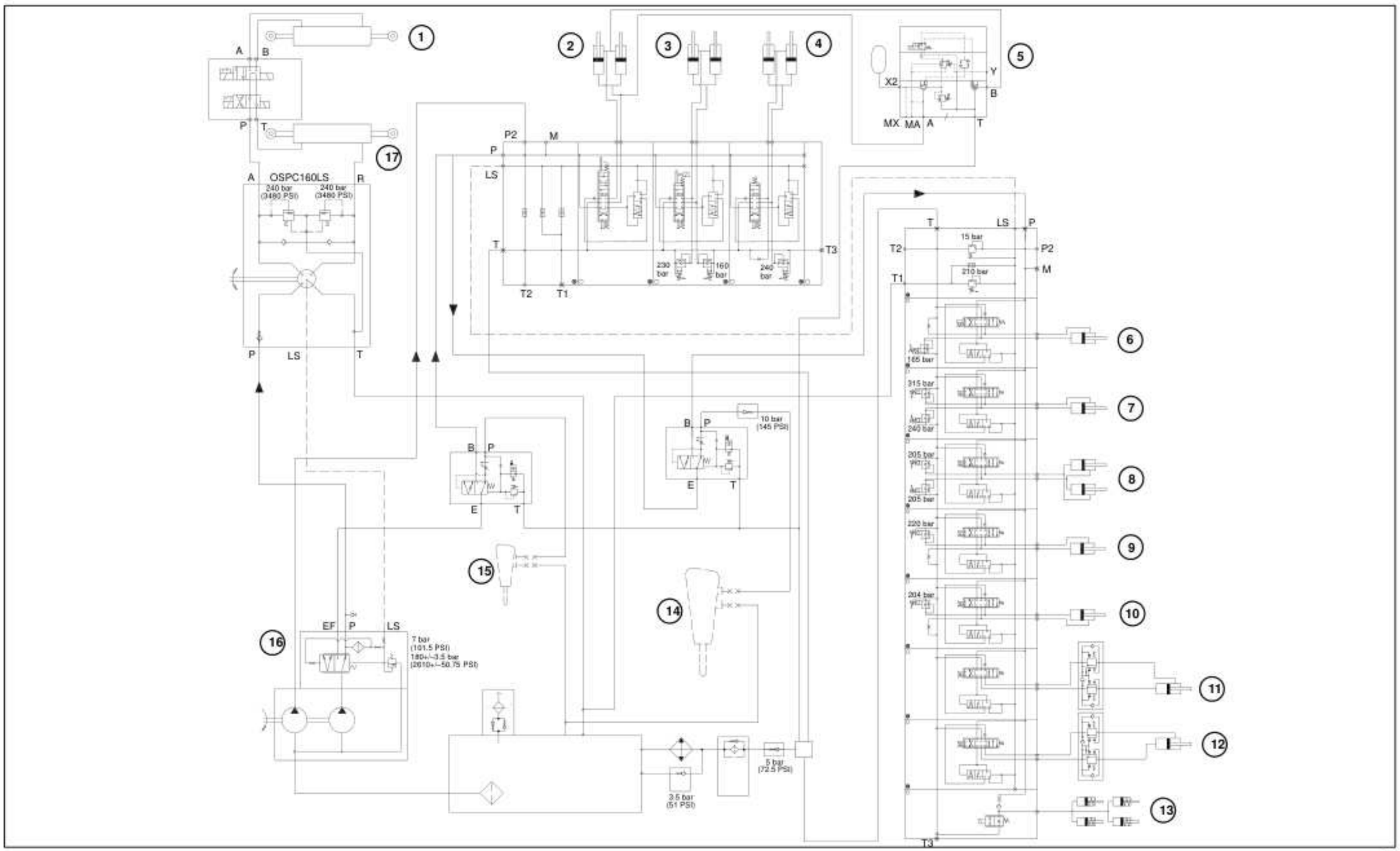
28

Input

Output

Intermediate

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14

Main Hydraulic System – 4 Wheel Steer (With Options) – Outside North America

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