Manual No. KM-TM3540B

Service Manual

AH350
AH400

Articulated Dump Truck

HITACHI

MidWestTech | Hitachi AH350, AH400 Articulated Dump Truck Service Manual | Publication KM-TM3540B

Order the manual at mid-west-tech.com >

INDEX

SECTION 1	PAGE
ELECTRICAL	
Specifications	1
Operator controls and instruments	2
Instrument panel LH	3-5
Operator controls, instrument panel	6-11
Instrument panel RH	12-14
Circuit breaker board	15
Air conditioner	16
Indicators and headlight control	17
Push button shift selector and range hold switch	18-19
Battery disconnect switch	19
Battery box circuit breakers	20-21
Fault finding	22-24
Relays	25
Trouble shooting	26-27
Schematics	
Earth points	28
Starting and charging	29
Indicator/hazard/air horn	30
Headlight	31
Warning	32
Guages	33
Over rev/low air/trans temp	34
Wiper washer/aircon/int light	35
Stoplight/evb/rev light	36
Park brake/hold range/bin up	37
Allison	38
High/low range	39
Flame star/trans cooler fans/trans cooler	40
Radio/battery balancer	41
Connector 1	42
Connectors 2 & 3	43
Connectors 4,5,6 & 7	44
Connectors 8,9,10 & 11	45
Connectors 12 , 13 & 14	46
Connectors 15,16,17 & 18	47
Connectors 19,20,21,22 & 23	48
Connectors 24,25,26 & 27	49

MidWestTech | Hitachi AH350, AH400 Articulated Dump Truck Service Manual | Publ... Order the manual at mid-west-tech.com >

SECTION 2

TRANSMISSION

General Description 1

Identification 2
Torque Convertor 2-7
Stall Testing 8-11

Planetary gears and power flows

Planetary gear sets 12
Transmission cross section 16
Neutral 18
First 19
Second 20
Third 21
Fourth 22
Fifth 23
Sixth 24
Reverse 25

Hydraulic system Overview

System function 26
Main pressure 27
Solenoid and Regulator valves
Clutch application 28
Latching valves 29
Control main circuit 30
Torque convertor circuit 30-32
Exhaust backfill 32
Main pressure regulator 33
Control main regulator 34

Solenoids

Normally open 35
Normally closed 36
solenoids 37

Hydraulic Schematics (Transmission) Overview

Component location **(fold out)** 38

MidWestTech | Hitachi AH350, AH400 Articulated Dump Truck Service Manual | Publ... Order the manual at mid-west-tech.com >

Neutral	39
First	40
Second	41
Third	42
Fourth	43
Fifth	44
Sixth	45
Reverse	46
Hydraulic flow operation	
Torque convertor and lube circuits	47
Convertor flow valve	48
Over drive knock down valve	48-49
Main Pressure	50
Exhaust backfill	51
Electronic control system	52
ECU	53
Pulse width modulation (PWM)	54-55
Upshift clutch control	56-57
Shift selectors	58-59
Vehicle interface module	60
Throttle position sensor and adjustment	61-72
Speed sensors	73
Wiring Harness	74-76
Upshift tests	76-77
Do not shift light (DNS)	78
Auto detect	79-81
Wire check procedures	82-85
Oil level sensor (Checking the oil level)	86-90

MidWestTech | Hitachi AH350, AH400 Articulated Dump Truck Service Manual | Publ... Order the manual at mid-west-tech.com >

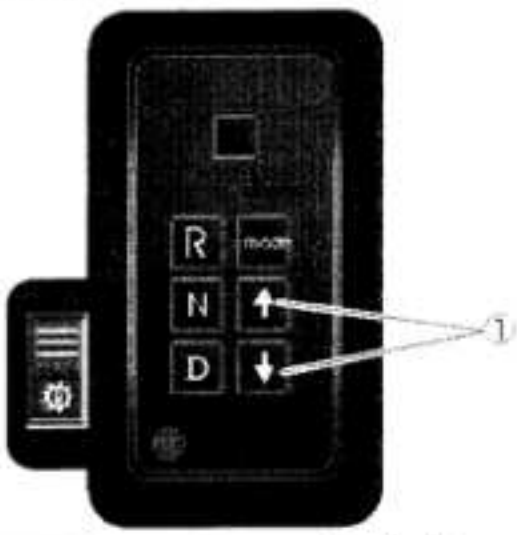
ELECTRICAL EQUIPMENT TROUBLESHOOTING		
SYMPTOM	**POSSIBLE CAUSE**	**REMEDY**
Right turn indicator does not work.	Bulb defective. Loose or broken connections. Indicator stalk switch defective.	Change the bulb. Change the indicator stalk switch. Tighten or repair connections.
Left turn indicator does not work.	Bulb defective. Loose or broken connections. Indicator stalk switch defective.	Change the bulb. Change the indicator stalk switch. Tighten or repair connections.
Windscreen wiper does not operate.	Wiper arm jamming motor. Wiper switch defective. Wiper motor defective. Loose or broken connections.	Release arm and blade. Change the wiper switch. Change the wiper motor. Tighten or repair connections.
Charge warning light not on with master switch on and engine stopped.	Warning light bulb defective. Wiring and connectors disconnected. Regulator on alternator defective.	Change the bulb Check/repair Change the alternator.
Charge warning light not off with engine running	Alternator drive belt loose or broken. Regulator on alternator defective.	Adjust drive belt tension or fit new drive belt. Change the alternator.
Charge warning light not off with engine running.	Alternator drive belt loose or broken. Regulator on alternator defective. Alternator defective. Poor battery connections.	Adjust drive tension or fit new drive belt. Change the alternator. Change the alternator. Clean and check battery connections.
Batteries do not hold charge.	Battery cells dry. Battery defective. Short running times with lights in use.	Check battery electrolyte and top up. Change the battery. Remove and charge the batteries or install fully charged batteries.
Batteries boiling dry from over charging.	Regulator on alternator defective.	Change the alternator and top up the electrolyte in the batteries.

MidWestTech | Hitachi AH350, AH400 Articulated Dump Truck Service Manual | Publ... Order the manual at mid-west-tech.com >

PUSH-BUTTON CHECK - (ELECTRONIC TRANSMISSION FLUID LEVEL CHECK)

The electronic method of checking the transmission fluid level incorporates a fluid level sensor to display the fluid level on the shift selector. The electronic method compensates for transmission fluid temperature between 65°C to 104°C (149°F to 220°F). Any temperature below 65°C (149°) or above 104°C (220°F) will result in an **Invalid for Display** condition. The normal operating temperature of the transmission fluid is 71°C to 93°C (160°F to 200°F), measured at the transmission sump. The reading obtained on the digital analogue will show the temperature measured at the transmission convertor out. Note that this temperature is normally higher than the sump temperature. The following procedure must be used to check the transmission fluid level using the push-button shift selector:

- Ensure that the machine is parked on a level surface and the park brake is applied.
- Allow the engine to run at idle in **N** (Neutral).



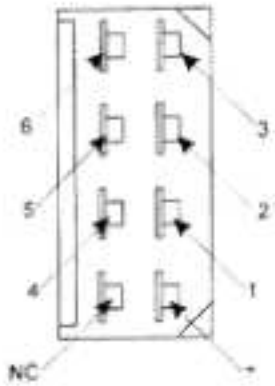
- Press the . **(UP)** and **(DOWN)** arrow buttons (1) simultaneously.

Note: The fluid level check may be delayed until the following conditions are met:

- The fluid temperature is above 65°C (149°F) and below 104°C (220°F).
- The transmission is in neutral.
- The machine has been stationary for approxi-mately two minutes to allow the fluid to settle.
- The engine is at idle.
- The transmission output shaft is stopped.

MidWestTech | Hitachi AH350, AH400 Articulated Dump Truck Service Manual | Publ... Order the manual at mid-west-tech.com >

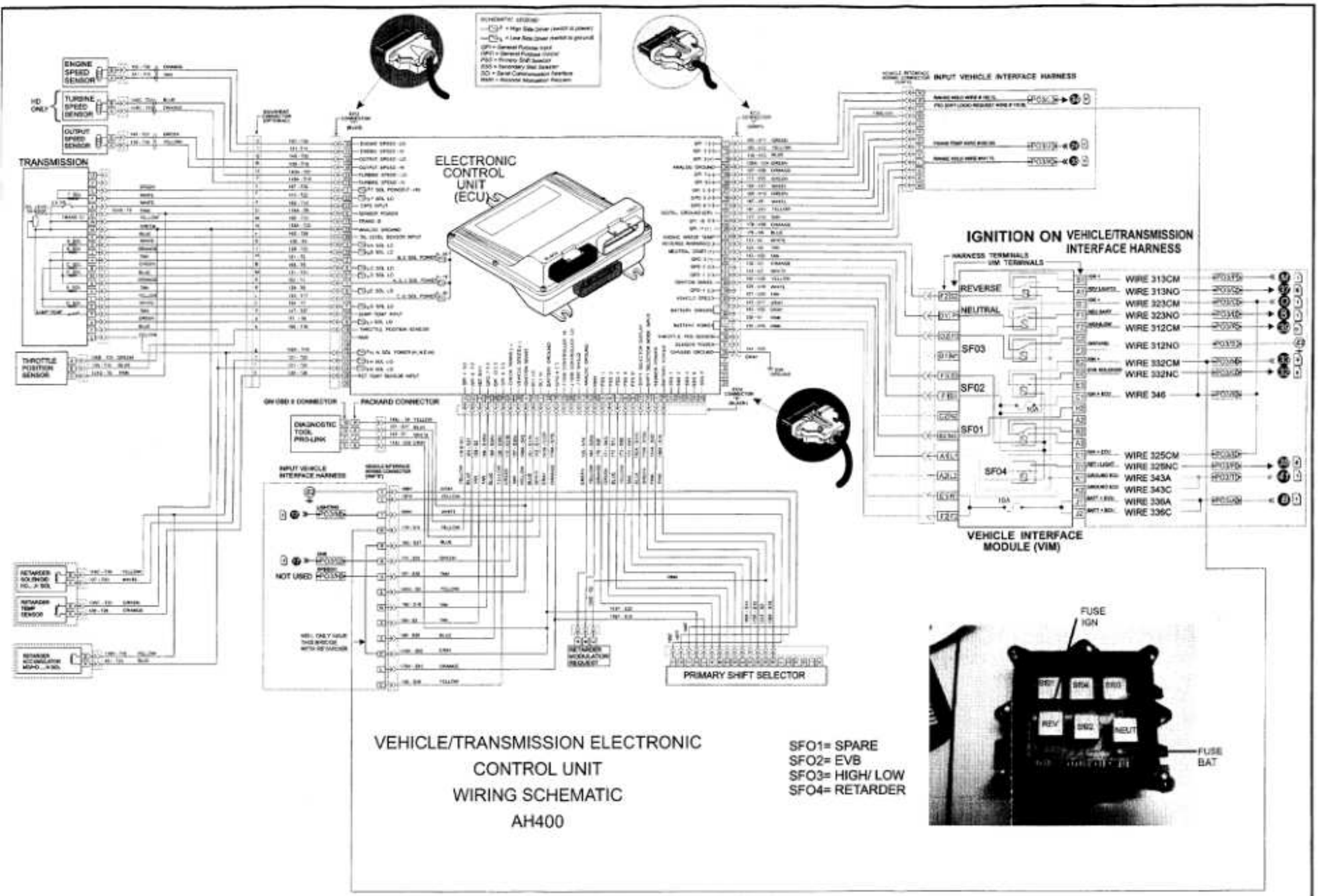
RESISTANCE MODULE TYPE 5



Terminal No.	Wire Color
+	White
1	Blue
2	Orange
3	Violet
4	Green
5	Yellow
6	Red

Page 169: (A3) Transmission wiring schematic

MidWestTech | Hitachi AH350, AH400 Articulated Dump Truck Service Manual | Publ... Order the manual at mid-west-tech.com >



MidWestTech | Hitachi AH350, AH400 Articulated Dump Truck Service Manual | Publication KM-TM3540B

Order the manual at mid-west-tech.com >