Service Manual

JZ235, JZ255 - TIER III AUTO

Section 1 - General Information

Section 2 - Care and Safety

Section 3 - Routine Maintenance

Section B - Body & Framework

Section C - Electrics

Section E - Hydraulics

Section F - Transmission

Section J - Track and Running Gear

Section K - Engine



Publication No.
9803/6560-5



Copyright © 2004 JCB SERVICE. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any other means, electronic, mechanical, photocopying or otherwise, without prior permission from JCB SERVICE.

Issued by JCB Technical Publications, JCB Aftermarket Training, Woodseat, Rocester, Staffordshire, ST14 5BW, England. Tel +44 1889 591500 Fax +44 1889 591600

World Class Customer Support

MidWestTech | JCB JZ235, JZ255 Tier III Auto Hydraulic Excavator Service Manual | Publi... Order the manual at mid-west-tech.com >

Contents Page No.

Introduction
About this Manual ..... 1 - 1
Identifying Your Machine ..... 1 - 3

Torque Settings
Zinc Plated Fasteners and Dacromet Fasteners ..... 1 - 5
Hydraulic Connections ..... 1 - 9

Service Tools
Numerical List ..... 1 - 13
Tool Detail Reference ..... 1 - 16

Service Consumables
Sealing and Retaining Compounds ..... 1 - 37

Terms and Definitions
Colour Coding ..... 1 - 39

MidWestTech | JCB JZ235, JZ255 Tier III Auto Hydraulic Excavator Service Manual |... Order the manual at mid-west-tech.com >

Contents **Page No.**

Routine Maintenance

Service Requirements ..... 3 - 1
Health and Safety ..... 3 - 3
Service Schedules ..... 3 - 7
Fluids, Lubricants and Capacities ..... 3 - 16
Tools ..... 3 - 23
Prepare the Machine for Maintenance ..... 3 - 24
Cleaning the Machine ..... 3 - 25
Check the Machine for Damage ..... 3 - 27
Daily Checking ..... 3 - 28
Greasing ..... 3 - 30
Electrical System ..... 3 - 34
Bolt and Nut Torque Specifications ..... 3 - 42
Engine ..... 3 - 46
Fuel System ..... 3 - 64
Hydraulic System ..... 3 - 70
Slew Gearbox ..... 3 - 82
Tracks and Running Gear ..... 3 - 83
Bucket ..... 3 - 86
Windscreen Washer ..... 3 - 87
Fire Extinguisher (If fitted) ..... 3 - 88
Troubleshooting ..... 3 - 89

MidWestTech | JCB JZ235, JZ255 Tier III Auto Hydraulic Excavator Service Manual |... Order the manual at mid-west-tech.com >

Contents Page No.

Technical Data
Static Dimensions ..... B - 1
Shipping Weight ..... B - 5
Dig Depth Chart ..... B - 6
Air Conditioning (option) ..... B - 10

Basic Operation
Automatic Temperature Control (ATC) System ..... B - 11

Fault Finding
Air Conditioning ..... B - 19

Service Procedures
HVAC/Air Conditioning Unit ..... B - 27
Air Conditioning Compressor ..... B - 29
Cab Structure ..... B - 30

Cab Panels
Cab Panel Removal ..... B - 37

MidWestTech | JCB JZ235, JZ255 Tier III Auto Hydraulic Excavator Service Manual |... Order the manual at mid-west-tech.com >

Error Codes / Error Diagnosis (Automatic Temperature Control (ATC) System)

Table 1. Error Code 1 - High Pressure Lock Out

Effect	Description	Causes	Remedy
The unit cannot cool the cab The compressor disengages.	The high pressure switch operates twice In 1 minute.	The system is overcharged.	Check the continuity of switch (usually open switch).
			Check the gas in system and recharge, refer to table.
		There is no power to the high pressure switch.	Check for 24V at the switch.
			Check the continuity between ATC control module pin 33 and switch.
		There is a bad earth on the high pressure switch.	Check the earth wire between ATC control module pin 34 and switch.
		There is a defective switch.	Replace the switch.

Note: *If, an Error code shows after one minute this can show a system Error.*

Note: *If, an Error code shows instantly this can show a wiring Error.*

Table 2. Error Code 2 - Low Pressure Lock Out

Effect	Description	Causes	Remedy
The unit cannot cool the cab The compressor disengages.	The low pressure switch opens for longer than 1 minute.	The system is undercharged.	Check the continuity of switch (usually closed switch).
			Check the gas in system and recharge, refer to table.
		There is no power to the low pressure switch.	Check for 24V at the switch.
			Check the continuity between ATC control module pin 35 and switch.
		There is a bad earth on the low pressure switch.	Check the earth wire between ATC control module pin 36 and switch.
		There is a defective switch.	Replace the switch.

Note: *If an Error code shows after one minute this can show a system error.*

Note: *If an Error code shows instantly this can show a wiring error.*

Note: *Battery reset may be required to remove the error after repair.*

MidWestTech | JCB JZ235, JZ255 Tier III Auto Hydraulic Excavator Service Manual |... Order the manual at mid-west-tech.com >

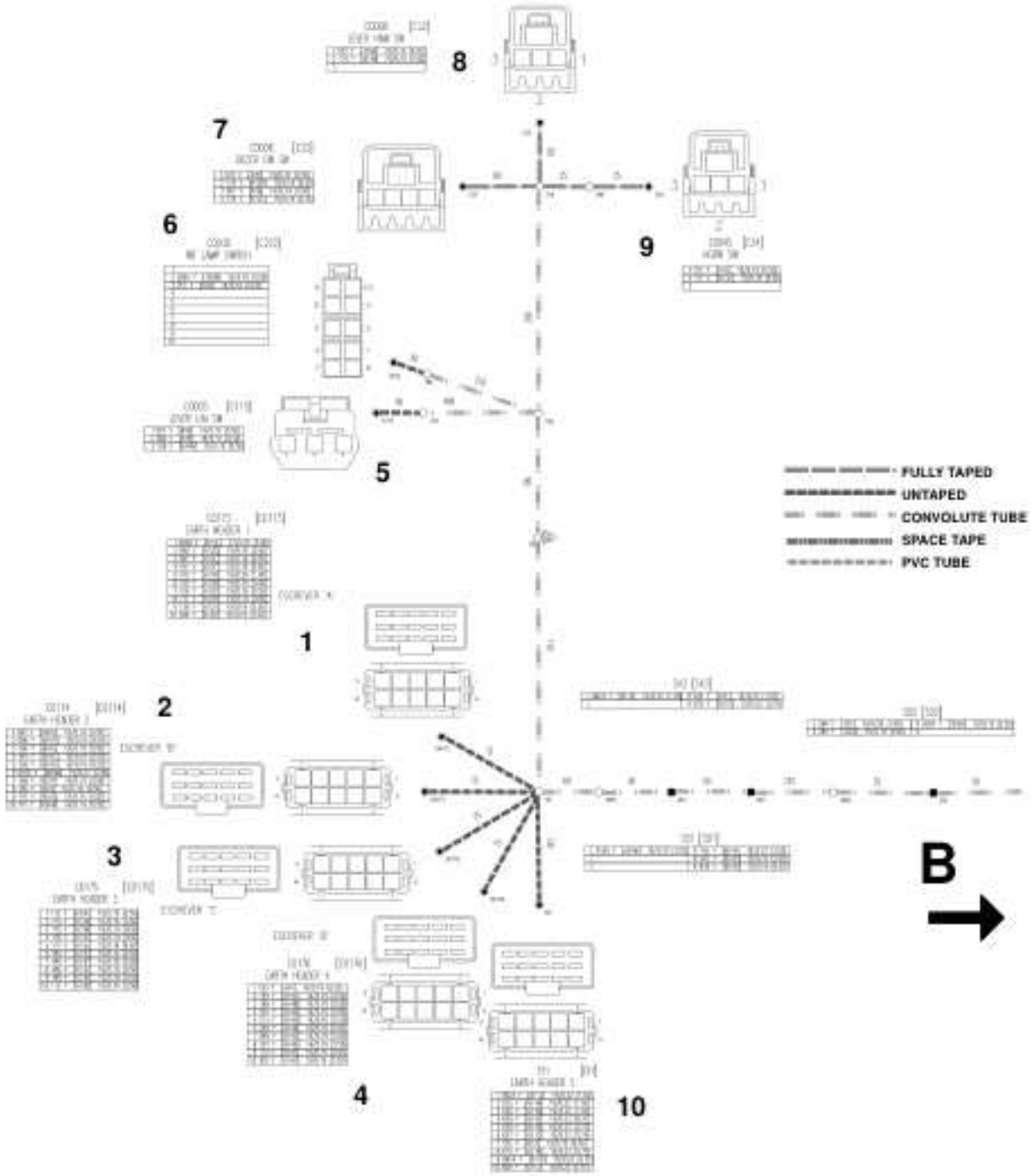


Fig 30. Cab Harness `A' 332/J3254 - Issue 3

MidWestTech | JCB JZ235, JZ255 Tier III Auto Hydraulic Excavator Service Manual |... Order the manual at mid-west-tech.com >

Table 11.

	(expected Pressures)	
	Port Pt1	**Port Pt2**
With max engine rpm's and no services selected record negative control pressure	(30 - 35 bar*)	(30 - 35 bar*)
	435 - 507 lb/in²	435 - 507 lb/in²
Select and stall boom up service record pressure	(0 - 3 bar)	(0 - 3 bar)
	0 - 43. 5 lb/in²	0 - 43.5 lb/in²
Fully select boom down record pressure when service first selected	(30 - 35 bar)	(15 bar)
	435 - 507 lb/in²	217.5 lb/in²
Select and stall bucket open service record pressure	(30 - 35 bar)	(0 - 3 bar)
	435 - 507 lb/in²	0 - 43.5 lb/in²
Select and stall bucket close service record pressure	(30 - 35 bar)	(0 - 3 bar)
	435 - 507 lb/in²	0 - 43.5 lb/in²
Select and stall dipper open service record pressure	(0 - 3 bar)	(0 - 3 bar)
	0 - 43.5 lb/in²	0 - 43.5 lb/in²
Select and stall arm close service record pressure	(0 - 3 bar)	(0 - 3 bar)
	0 - 43. 5 lb/in²	0 - 43.5 lb/in²
Select and stall swing left service record pressure	(0 - 3 bar)	(30 - 35 bar)
	0 - 43.5 lb/in²	435 - 507 lb/in²
Select and stall swing right service record pressure	(0 - 3 bar)	(30 - 35 bar)
	0 - 43.5 lb/in²	435 - 507 lb/in²
Select and stall left hand track forward record pressure	(0 - 3 bar)	(30 - 35 bar)
	0 - 43.5 lb/in²	435 - 507 lb/in²
Select and stall left hand track backwards record pressure	(0 - 3 bar)	(30 - 35 bar)
	0 - 43.5 lb/in²	435 - 507 lb/in²
Select and stall right hand track forwards record pressure	(30 - 35 bar)	(0 - 3 bar)
	435 - 507 lb/in²	0 - 43.5 lb/in²
Select and stall right hand track backwards record pressure	(30 - 35 bar)	(0 - 3 bar)
	435 - 507 lb/in²	0 - 43.5 lb/in²
* This pressure will vary with oil temperature and engine speed.		

MidWestTech | JCB JZ235, JZ255 Tier III Auto Hydraulic Excavator Service Manual |... Order the manual at mid-west-tech.com >



Fig 1.

MidWestTech | JCB JZ235, JZ255 Tier III Auto Hydraulic Excavator Service Manual |... Order the manual at mid-west-tech.com >

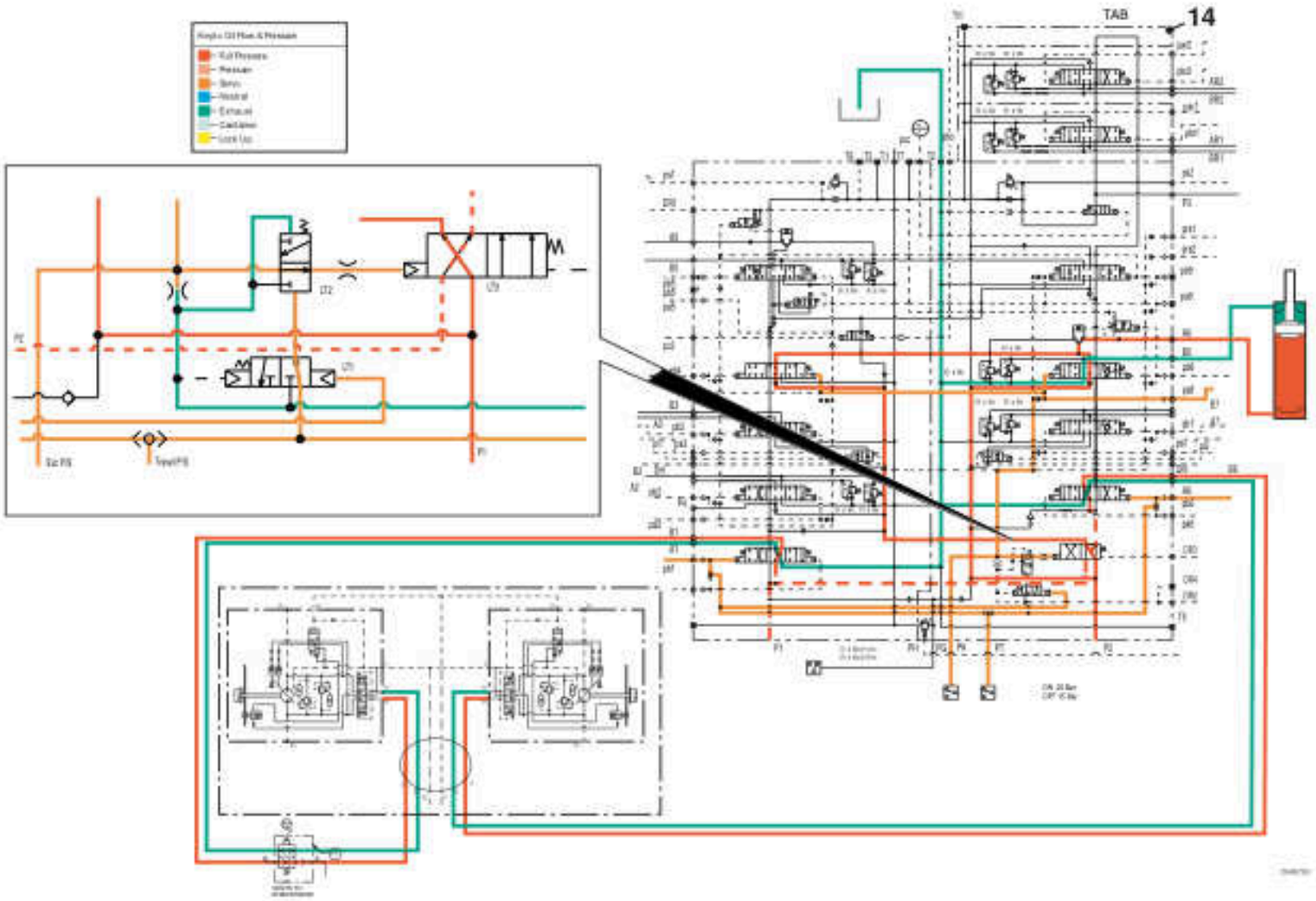


Fig 5. Straight Line Travel Schematic

⇨ *Straight Line Travel (E-22)*

MidWestTech | JCB JZ235, JZ255 Tier III Auto Hydraulic Excavator Service Manual | Publication 9803-6560-5
Order the manual at mid-west-tech.com >