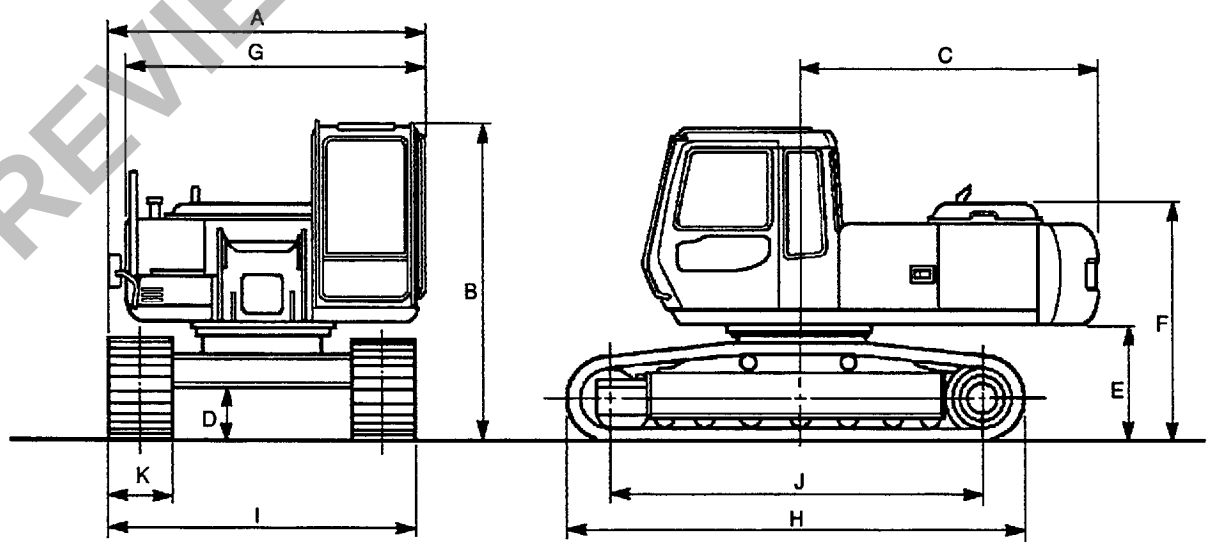
SPECIFICATIONS

Model		EX200-5	EX200LC-5
Arm Length	–	2.91 m Arm	
Bucket Capacity (Heaped)	m^3	0.80: PCSA (0.70 : CECE)	
Operating Weight	kg	18 800	19 300
Base Machine Dry Weight	kg	14 700	15 200
Engine	–	ISUZU A-6BGIT 99 kW / 1 950 min^{-1} (135 PS / 1 950 rpm) ★107 kW / 2 150 min^{-1} (145 PS / 2 150 rpm)	
A: Overall Width (Excluding Rear-View Mirrors)	mm	2 860	2 990
B: Cab Height	mm	2 870	2 870
C: Rear End Swing Radius	mm	2 750	2 750
D: Minimum Ground Clearance	mm	※450	※450
E: Counterweight Clearance	mm	※1 030	※1 030
F: Engine Cover Height	mm	※2 130	※2 130
G: Overall Width of Upper-structure	mm	2 710	2 710
H: Undercarriage Length	mm	4 170	4 460
I: Undercarriage Width	mm	2 800	2 990
J: Sprocket Center to Idler Center	mm	3 370	3 660
K: Track Shoe Width	mm	600 (Grouser shoe)	
Ground Pressure	kPa (kgf/cm^2)	42 (0.43)	40 (0.41)
Swing Speed	min^{-1} (rpm)	13.9	
Travel Speed (Fast/Slow)	km/h	5.5 / 3.8	
Gradeability	deg. (%)	35 (70)	

H/P mode values are indicated with ★ mark.
The dimensions indicated with ※ mark do not include the height of the shoe lug.

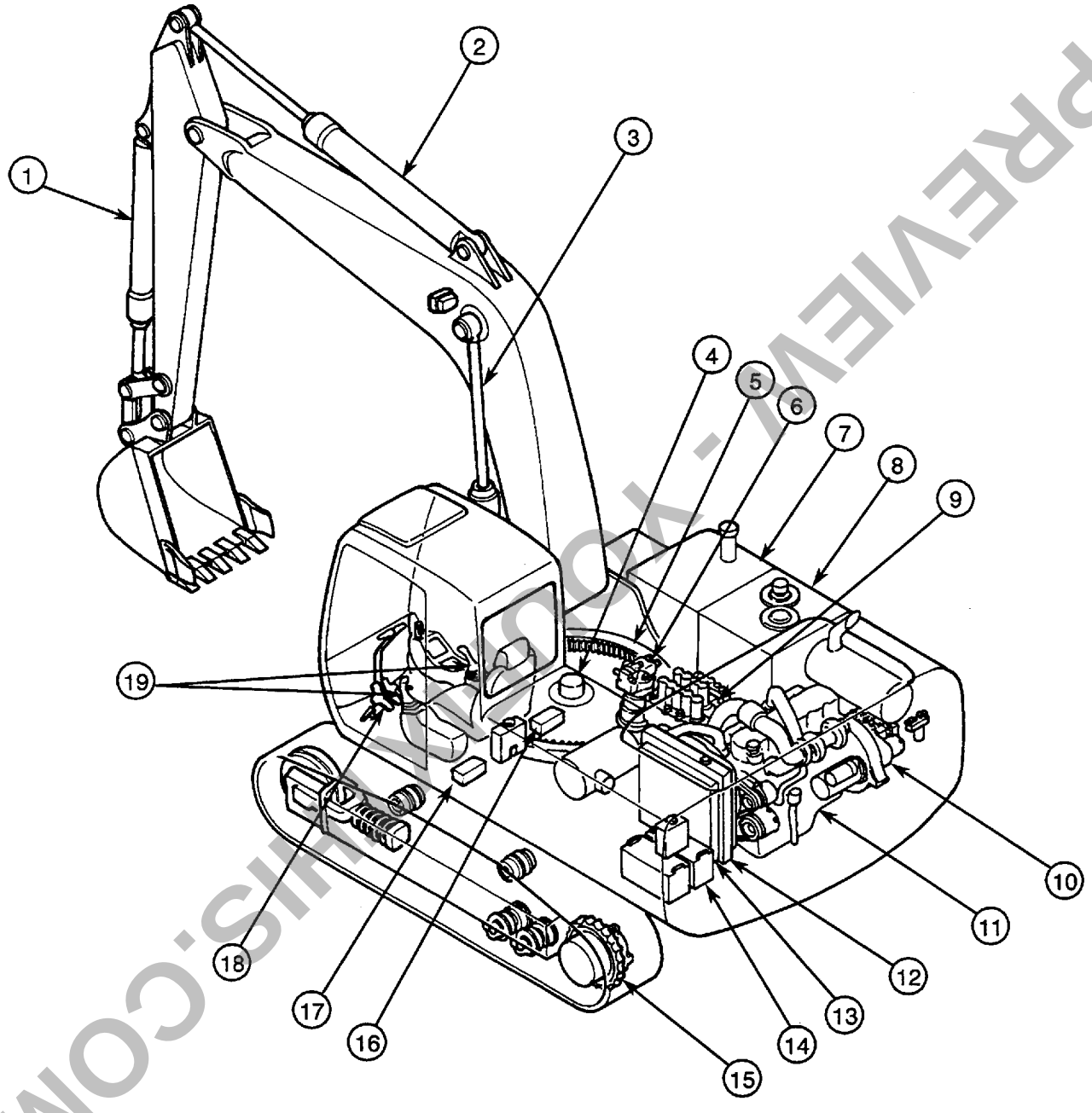


Base Machine Dimensions M157-11-001

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Download full manual at youfixthis.com

MAIN COMPONENTS

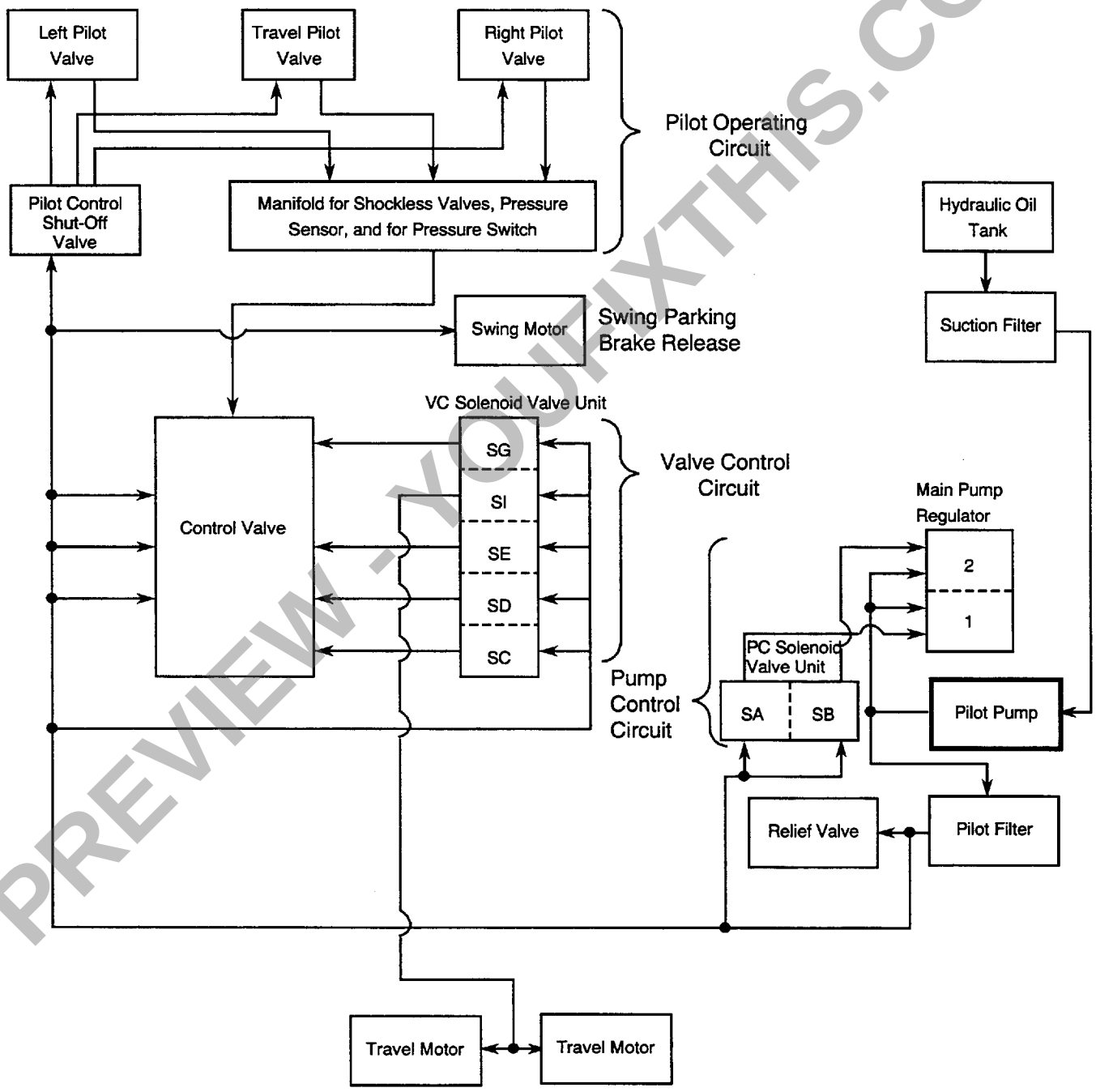


PREVIEW - YOUFIXTHIS.COM

1— Bucket Cylinder
2— Arm Cylinder
3— Boom Cylinder
4— Center Joint
5— Swing Bearing
6— Swing Device
7— Fuel Tank
8— Hydraulic Oil Tank
9— Control Valve
10— Pump Device
11— Engine
12— Radiator
13— Oil Cooler
14— Battery
15— Travel Device
16— Shockless Valve
17— Pilot Shut-Off Valve
18— Travel Pilot Valve
19— Front/Swing Pilot Valve

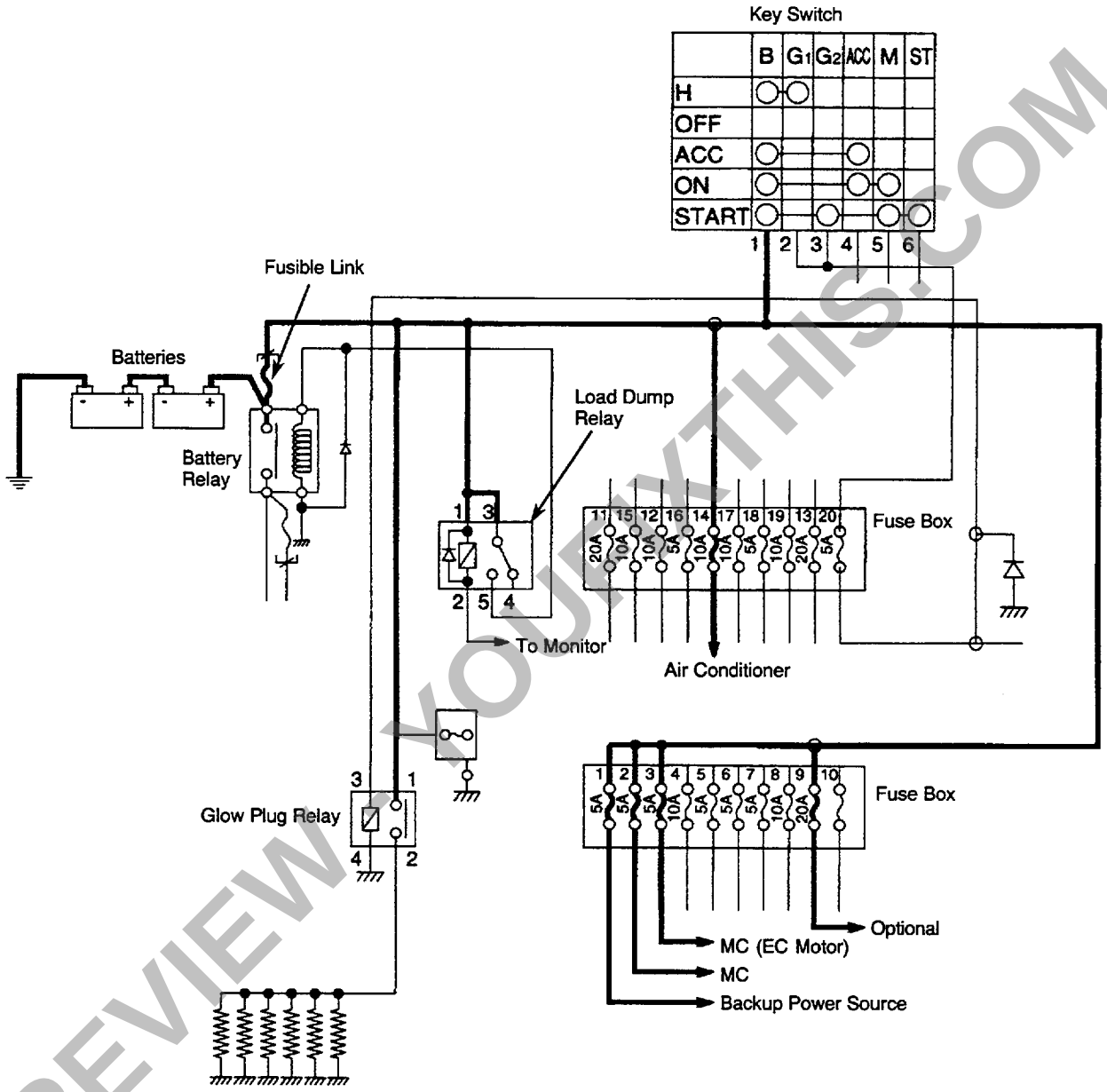
PILOT CIRCUIT

Pressure oil from the pilot pump acts as working pressure in pilot operating circuit, in the pump/valve control circuit, and in the swing parking brake release line.



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



T157-04-02-001

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

INTRODUCTION

Each troubleshooting section group is presented in an orderly fashion so as to make the inspecting and troubleshooting procedures easy to follow. Use the troubleshooting section to guide you in locating the source of any problems that may arise.

The troubleshooting section consists of 6 groups: the component layout, the troubleshooting A (using fault codes), troubleshooting B (starting with symptoms), troubleshooting C (gauges and in-dicators), the electrical system inspection pro-cedures, and harness check groups.

- Component Layout Drawing

- Troubleshooting A (using fault codes)
  Use these charts when the self-diagnosing function of Dr.EX shows any fault codes.
  (The controller automatically diagnoses and memorizes malfunctions that have occurred in the signal sending system.)

  Example: Fault Code 06: EC Sensor Failure

- Troubleshooting B (starting with symptoms)
  Use these charts when the machine is exhibiting trouble and when Dr.EX does not indicate any fault codes.

  Example: Even if engine control dial is operated, engine speed does not change.

- Troubleshooting C (Gauges and indicators)
  Use these charts when any gauges or indicators malfunction.

  Example: The fuel gauge does not operate.

- Electrical System Inspection Procedure
  Refer to this group for precautions and inspection procedures of the electrical system when or before performing inspections on the electrical system.

  Example: Fuse Inspection

- Harness Check
  Refer to this group for information about the test harnesses.

  Example: ST 7129

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ENGINE SPEED ADJUSTMENT AND ENGINE LEARNING

Be sure to readjust engine speed and perform the engine stopper position learning procedure in the following cases:

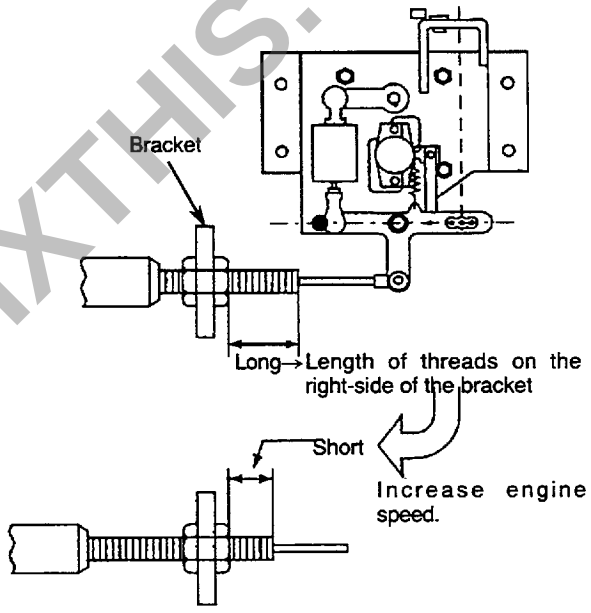
- ·When engine speeds deviate from specification.
- ·When the engine, engine control cable, or EC motor is removed (for inspection or repair).
- ·When MC is replaced.

Engine Speed Adjustment:

1. Start the engine.

(NOTE: Confirm that the air-conditioner switch is turned OFF.)

2. Turn the engine control dial to the minimum speed (slow idle) position.
3. When Dr. EX is available: Deactivate the auto-warming up using Dr. EX. (Special Function)
4. When Dr. EX is not available: Wait until the auto-warming up is complete. It may take up to 15 minutes.
5. While checking the actual engine speed with Dr. EX or a tachometer, adjust the engine control cable at the engine-side end bolt and/or at the EC motor-side end bolt until the specified slow idle speed is obtained.



T157-07-04-005

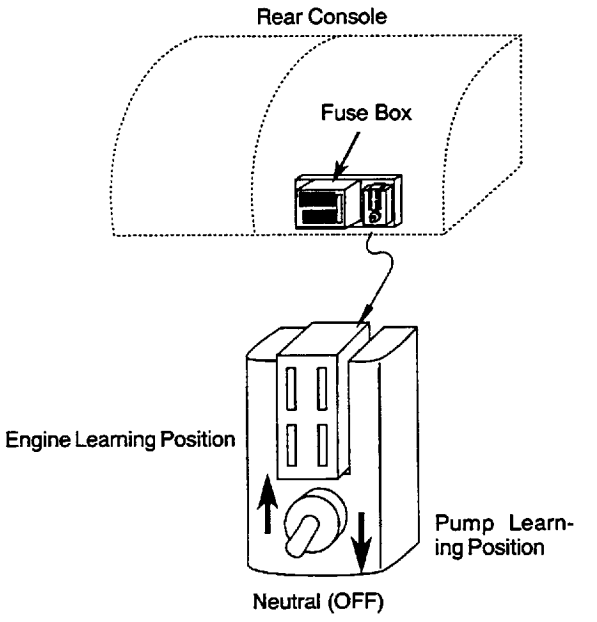
Specification:

Engine Learning Procedure:

1. Turn the key switch OFF.

(NOTE: Should the engine not stop with the key switch, pull the fuel cut handle located under the operator's seat to stop the engine.)

2. Disconnect Dr. EX. Wait 5 seconds.
3. Turn the learning switch to the engine learning position.
4. Turn the key switch to the ON position. Wait 2 seconds.
5. Turn the key switch OFF. Wait 5 seconds.
6. Turn the learning switch to the Neutral (OFF) position.
7. Check the engine speed.



T157-07-04-001

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Technical Manual

(Operational Principle)

EX200-5

Japanese Domestic Version

Vol No.: TO160E-00

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

EX200-5 EXCAVATOR

Japanese Domestic Version

TECHNICAL MANUAL

(Operational Principle)

SECTION AND GROUP CONTENTS



SECTION 01- GENERAL

Group 01 Specifications
Group 02 Component Layout



SECTION 02- UPPERSTRUCTURE

Group 01 Pump Device
Group 02 Swing Device
Group 03 Control Valve
Group 04 Pilot Valve
Group 05 Others



SECTION 03- UNDERCARRIAGE

Group 01 Travel Device
Group 02 Others



SECTION 04- SYSTEM

Group 01 Electrical Circuit
Group 02 Hydraulic Circuit
Group 03 Control System

PREVIEW - YOUFIXTHIS.COM

All information, illustrations and specifications in this manual are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice.

COPYRIGHT ©1996
Hitachi Construction Machinery Co., Ltd.
Tokyo, Japan
All rights reserved

Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

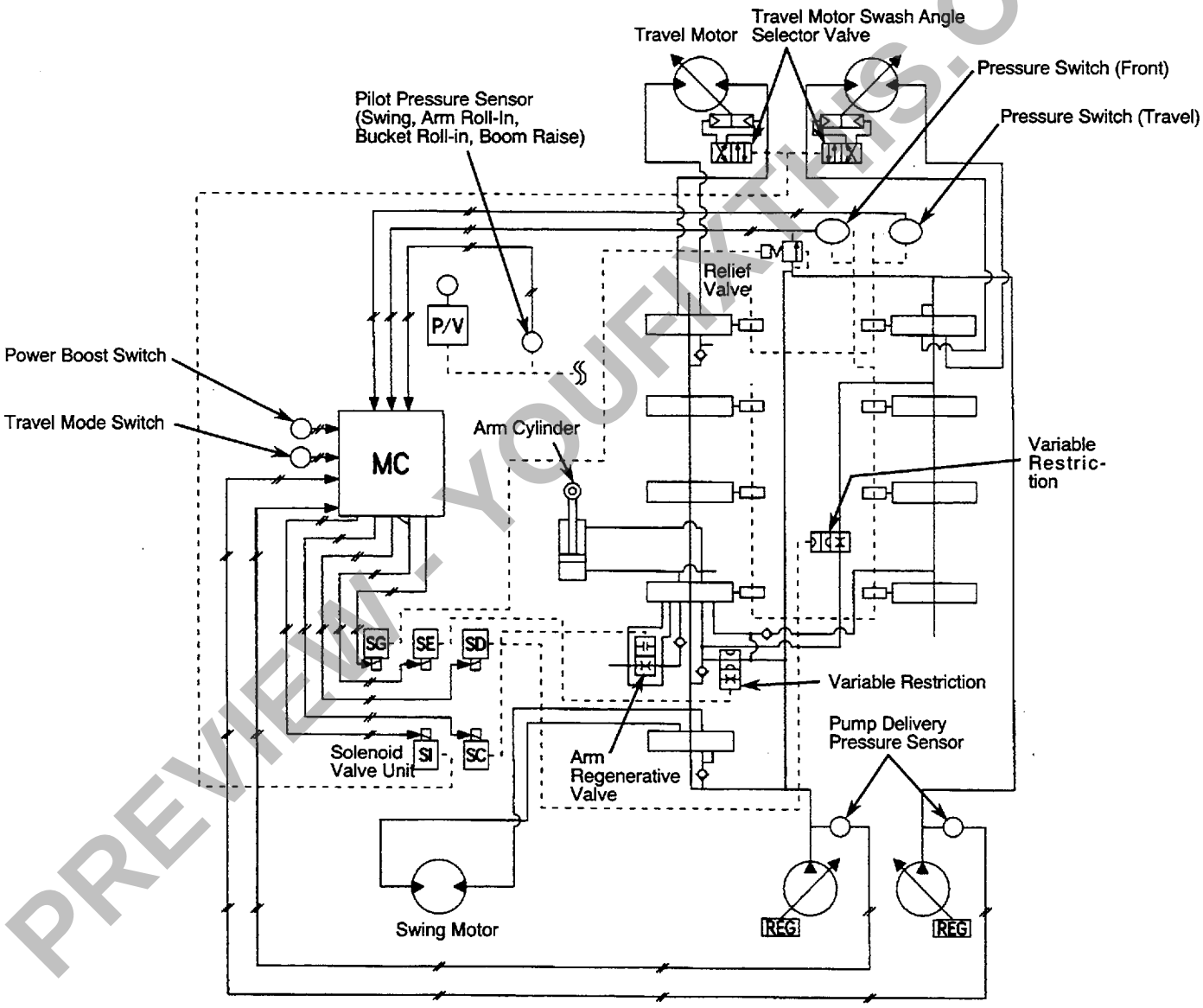
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

VALVE CONTROL

The valve control system has the following control functions:

- ·Power Boost Control
- ·Swing Priority Control
- ·Arm Priority Control
- ·Arm Regenerative Control
- ·Travel Motor Swash Angle control

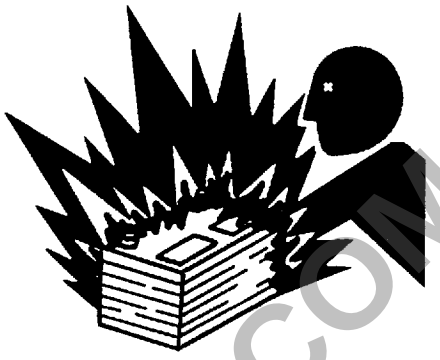


T157-04-04-022

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVENT BATTERY EXPLOSIONS

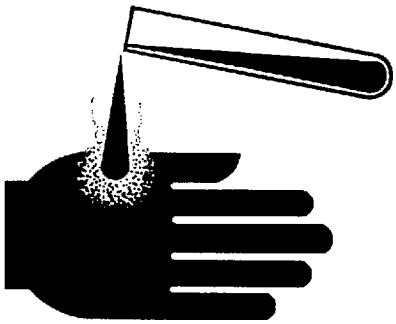


SA-032

- Battery gas can explode.
  - · Keep sparks, lighted matches, and flame away from the top of battery.
  - · Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.
  - · Do not charge a frozen battery; it may explode. Warm battery to 16 °C (60 °F).
- Battery electrolyte is poisonous. If the battery should explode battery electrolyte may be splashed into eyes, possibly resulting in blindness.
  - · Be sure to wear eye protection when checking electrolyte specific gravity.

512-E01A-0032-4

SERVICE AIR CONDITIONING SYSTEM SAFELY



SA-405

- If spilled onto skin, refrigerant may cause a cold contact burn.
  - · Refer to the freon container for proper use when servicing the air conditioning system.
  - · Use a recovery and recycling system to avoid venting freon into the atmosphere.
  - · Never let the freon stream make contact with the skin.

513-E01A-0405-3

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

4.4 MAIN PUMP DELIVERY PRESSURE

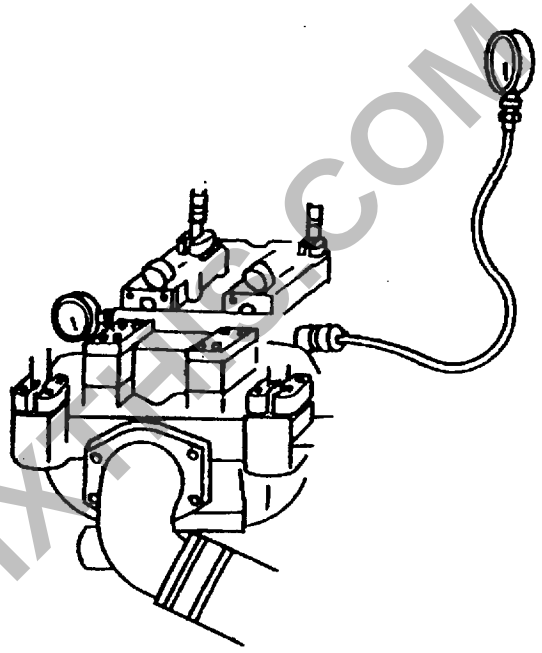
The main pump delivery pressure can also be measured with Dr.EX.

Preparation:

1. Properly shut down the engine.
2. Press the air release valve on top of the hydraulic oil tank to release any remaining pressure.
3. Remove the plug from the main pump delivery port. Install adapter (ST 6069), hose (ST 6943) and pressure gauge (ST 6941) on the port.

   ⌐ : 6 mm

   Connect Dr.EX to the machine for main pump delivery pressure monitoring.
4. Start the engine. Confirm that no oil leakage is observed at the pressure gauge connection.
5. Maintain the hydraulic oil temperature at 50±5 °C (122±9 °F).



T157-05-04-005

Measurement:

1. Select the following switch positions:

Engine Control Dial	: Fast Idle
E Mode Switch	: OFF
HP Mode Switch	: OFF
Work Mode Selector	: General Purpose Mode
Auto-Idle Switch	: OFF

2. Measure the pressure with the control levers in neutral.
3. Repeat the measurement three times and calculate the average values.

Evaluation:

Refer to the Performance Standard Table in Group T05-05.

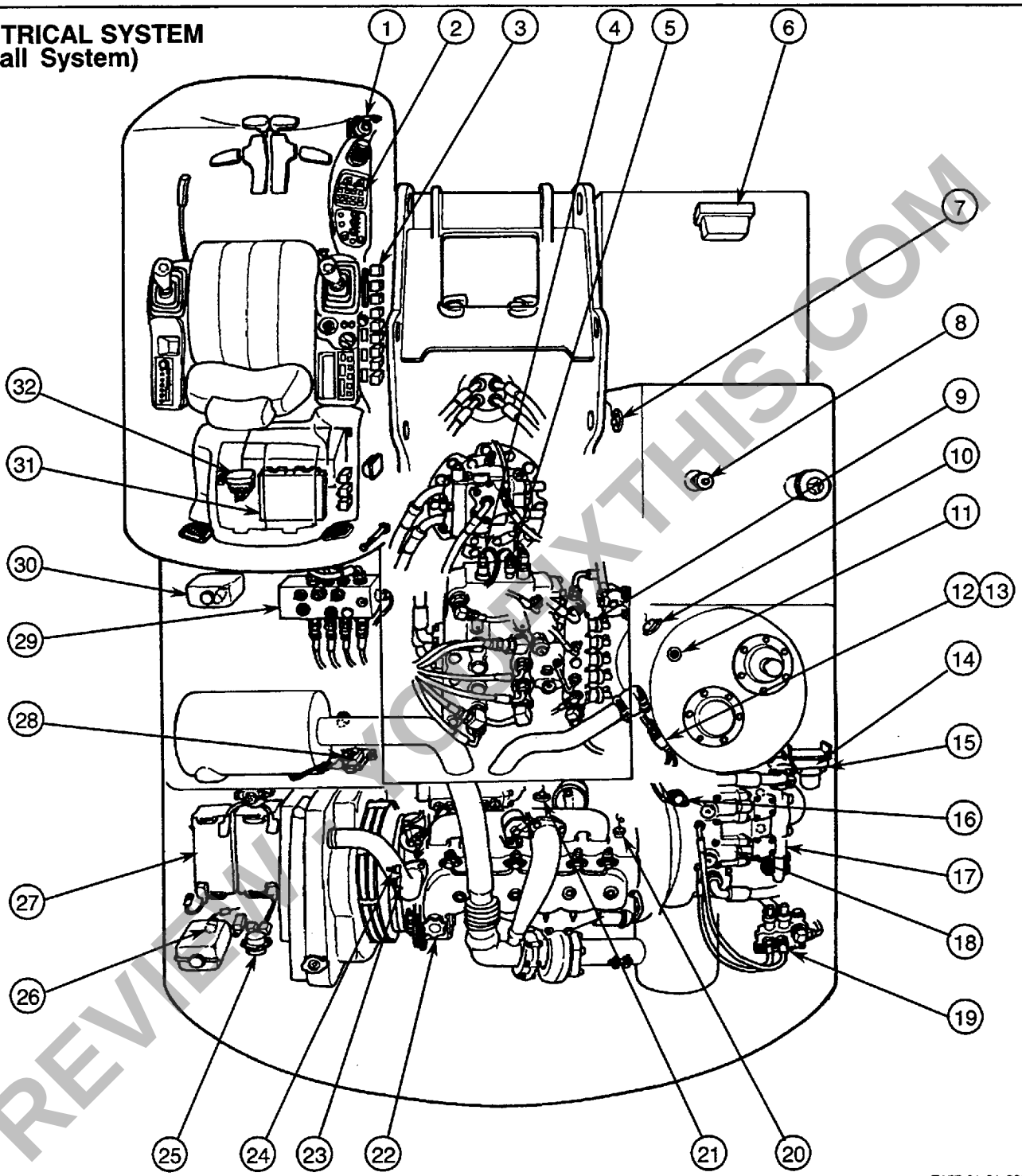
Remedy:

Refer to the Troubleshooting B in Group T06-04.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ELECTRICAL SYSTEM (Overall System)



T157-01-01-002

1— Wiper Motor
2— Monitor Panel
3— Relays
4— Pressure Switch (Front)
5— Pressure Switch (Travel)
6— Work Light
7— Fuel Sensor
8— Low Fuel Level Switch
9— VC Solenoid Valve Unit
10— Hydraulic Oil Level Switch
11— Hydraulic oil Temperature Sensor
12— PC Pressure Sensor (Upper: 5-Spool Side)
13— PC Pressure Sensor (Lower: 4-Spool Side)
14— EC Sensor
15— EC Motor
16— N Sensor
17— Pump Delivery Pressure Sensor
18— A Sensor
19— PC Solenoid Valve Unit
20— Engine Oil Pressure Switch
21— Engine Oil Level Switch
22— Alternator
23— Overheat Switch
24— Coolant Temperature Sensor
25— Battery Relay
26— Coolant Level Switch
27— Battery
28— Starter Relay
29— Pressure Switch and Sensor
30— Windshield Washer Tank
31— MC (Main Controller)
32— Fuse Box

PREVIEW ONLY YOUFIXTHIS.COM
Download full manual at youfixthis.com

Part Name		Hydraulic Oil Temperature Sensor	Learning Switch	Power Boost Switch
Part Function		· To detect hydraulic oil temperature.	· To start engine learining and pump learning control. ON: 0 V → Learning OFF: 5 V → Normal Control	· To operate power boost function ON: 0 V → Boost function works. OFF: 5 V → Boost function does not work.
Control System Trouble		· In case of wire breakage in the harness line to the hydraulic oil temperature sensor, MC functions supposing the hydraulic oil temperature is 40 °C. (However, the hydraulic oil temperature cannot be displayed on Dr. EX display in troubleshooting or monitoring functions.)	· Engine learning does not function.	· Breaking of Wire: Boost function does not work. Short Circuit: Boost function works for 8 seconds after key switch is turned ON, but becomes inoperative afterwards.
Machine Symptoms		· Even with the hydraulic oil temperature lower than 30 °C, the auto-warming-up does not function when the engine is started. The engine will run at slow idle speed.	· If trouble is caused by circuit discontinuity, engine control system operates normally. (Only learning function fails.) · If trouble is caused by a short circuit, the learning mode operates when key switch is turned ON. Therefore, engine may stall 2 to 20 seconds after engine starts.	· Power boost function does not work if whether a wire is broken or short circuit occurs.
Trouble-shooting Procedures	By Dr. EX Self-Diagnosing Function	Faultc ode 19 is displayed.	—	—
	By Dr. EX Monitor Function	Monitor Item: #23	Monitor item #43, 44	Monitor item #36
	By Lamp Harness Check	—	—	—
	By Other Check Measurements	—	—	—
Note		—	—	—
Descriptions of Operational Principles in Technical Manual		T04-03	T04-03	T04-03

PREVIEW - YOUFIXTHIS.COM

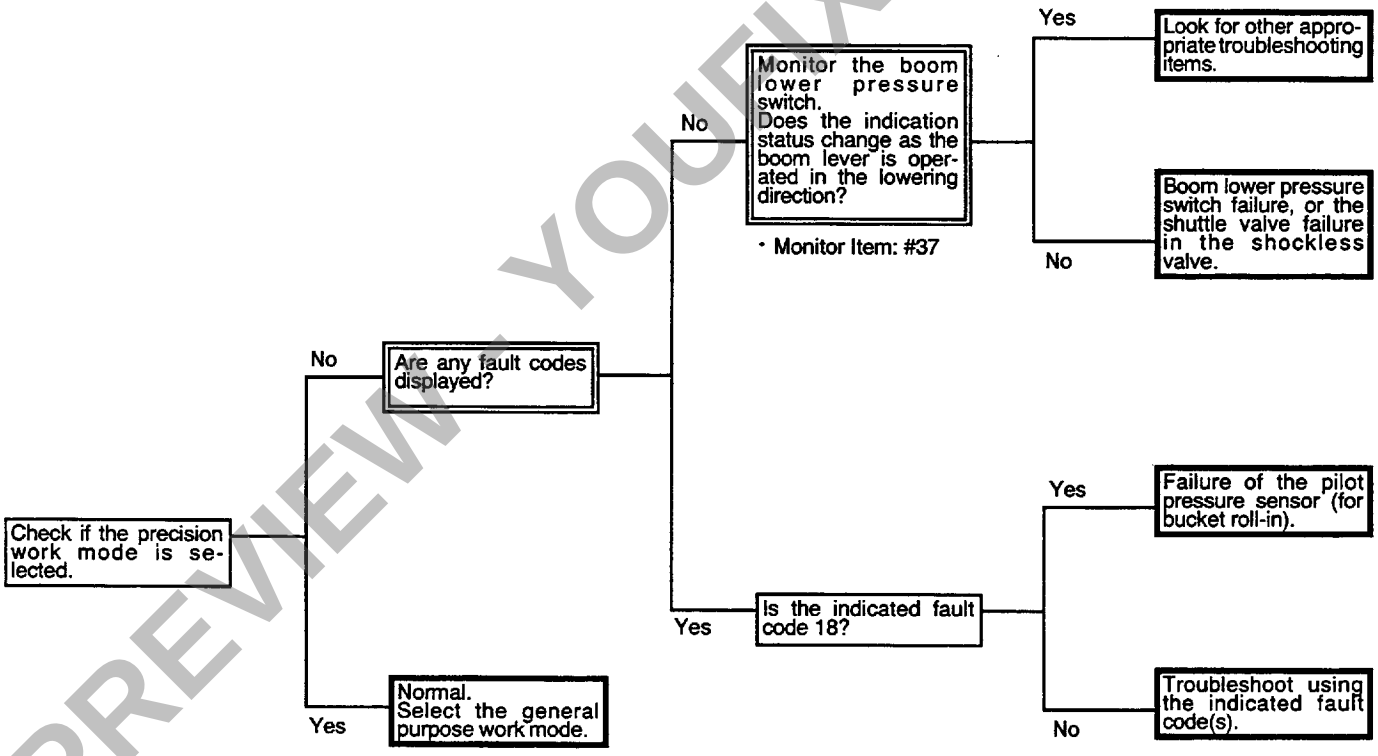
Download full manual at youfixthis.com

F-4 Bucket is Slightly Slow in Bucket Roll-In Operation.

Related Fault Code: 18

Checking Instructions

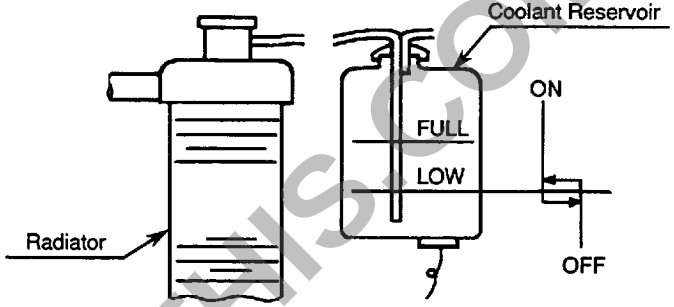
- The bucket moves at approximately 90 % of its normal speed if the maximum displacement angle restriction control (To increase bucket roll-in speed) does not function.
- Refer to the "Maxmum Displacement Angle Restriction Control (To Increase Bucket Roll-In Speed)" page of the Control System Group in the SYSTEM Section of the Operational Principle book (Technical Manual).
- If the phenomenon appeared after replacing the PC pressure sensor or the pump control valve, it is suspected that the connectors or the lines of the 5-spool side and 4-spool side are connected incorrectly.



PREVIEW: YOUFIXTHIS.COM

Download full manual at youfixthis.com

Coolant Level Switch



T107-04-03-012

- Failure in monitor.
- Faulty harness. (breakage)
- Faulty coolant level switch.
- Yes
  - Faulty harness. (short circuit)
- No
  - Failure in monitor.
  - Faulty coolant level switch.
  - Normal

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 17 of 398 pages

The full manual includes:

- All 398 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Hitachi EX200-5, EX200LC-5 Technical Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual