CEBM001400

Shop Manual

KOMATSU®

150A/FA

HYDRAULIC CRANE

SERIAL NUMBERS	150A	10828	and UP
	150FA	10828	

This material is proprietary to Komatsu America Corp. and is not to be reproduced, used, or disclosed except in accordance with written authorization from Komatsu America Corp.

It is our policy to improve our products whenever it is possible and practical to do so. We reserve the right to make changes or add improvements at any time without incurring any obligation to install such changes on products sold previously.

Due to this continuous program of research and development, periodic revisions may be made to this publication. It is recommended that customers contact their distributor for information on the latest revision.

September 2004
Printed in USA

Copyright 2004 Komatsu
DataKom Publishing Division

MidWestTech | Komatsu 150A, 150AFA Hydraulic Crane Service Manual | Publication CEBM001400
Order the manual at mid-west-tech.com >

MASTER CYLINDER SECTION 10-79
POWER ASSIST SECTION 10-79
BRAKE VALVE - EXPLODED VIEW 10-80
HYDRAULIC PUMP 10-82
DUAL TANDEM 10-82
EXPLODED VIEW 10-82
DUAL TANDEM PUMP CUTAWAY VIEW 10-83
SWING DRIVE MOTOR 10-84
EXPLODED VIEW 10-84
HOIST/WINCH MOTOR 10-85
EXPLODED VIEW 10-85
AUXILIARY HOIST MOTOR 10-86
EXPLODED VIEW 10-86
PARKING BRAKE 10-88
SERVICE BRAKE 10-89
AXLES 10-90
DIFFERENTIAL 10-90
PLANETARY AXLE WHEEL ENDS 10-94
SENSORS 10-97
BACKUP ALARM PRESSURE SWITCH 10-97
FUEL LEVEL SENDER 10-97
TORQUE CONVERTER OIL TEMPERATURE SENDER 10-98
ENGINE WATER TEMPERATURE SENDER 10-98
ENGINE OIL PRESSURE SENDER 10-98
NEUTRAL START SWITCH 10-99
BRAKE LIGHT OIL PRESSURE SWITCH 10-99
ENGINE HIGH WATER TEMPERATURE SWITCH (OPTION) 10-100
ENGINE LOW OIL PRESSURE SWITCH (OPTION) 10-100
REAR STEERING INDICATOR LIGHT SWITCH 10-101
TOWING THE CRANE 10-102
FRONT DRIVELINE 10-102
REAR DRIVELINE 10-102

MidWestTech | Komatsu 150A, 150AFA Hydraulic Crane Service Manual | Publication CEB... Order the manual at mid-west-tech.com >

OIL SUPPLY LINE ON A THREE SECTION POWER BOOM. 20-133
INSIDE CROWD CYLINDER CANNOT BE RETRACTED, CAUSED BY BROKEN OIL SUPPLY LINE ON A FOUR SECTION POWER BOOM. 20-134
REMOVAL OF THE INSIDE CROWD CYLINDER ON A THREE SECTION POWER BOOM. 20-135
HOIST WINCH CIRCUIT 20-136
HOIST WINCH CIRCUIT OPERATION 20-138
HOIST WINCH DRIFTS WITH LOAD 20-138
HOIST WINCH CANNOT BE FEATHERED WHEN LOWERING A LOAD 20-141
HOIST WINCH WON'T LOWER OR HESITATES BEFORE LOWERING. 20-141
HOIST WINCH LOWERS IN AN UNEVEN OR JERKY MANNER. 20-142
HOIST WINCH WILL NOT LIFT LOAD. 20-142
REAR STEERING 20-143
REAR STEERING CYLINDERS DRIFT 20-143
OUTRIGGERS 20-144
OUTRIGGER CYLINDER DRIFT 20-144
OUTRIGGERS CHATTER WHEN RAISING 20-145
SERVICE BRAKES 20-146
ADJUST BRAKE 20-146
WHEEL CYLINDER MAINTENANCE 20-146
WHEEL CYLINDER DIAGNOSTICS 20-147
BLEED HYDRAULIC SYSTEM 20-147
MAINTENANCE SCHEDULES 20-148
MINOR INSPECTION: HYDRAULIC BRAKES 20-148
MAJOR INSPECTION: HYDRAULIC BRAKES 20-149
PARKING BRAKE 20-150
ADJUST BRAKE 20-150
MAINTENANCE SCHEDULES 20-150
MINOR INSPECTION: MECHANICAL BRAKES 20-150
MAJOR INSPECTION: MECHANICAL BRAKES 20-150

MidWestTech | Komatsu 150A, 150AFA Hydraulic Crane Service Manual | Publication CEB... Order the manual at mid-west-tech.com >

SPECIFICATIONS

	TRANSMISSION AND TORQUE CONVERTER
CONVETER OUT PRESSURE	Converter outlet oil temperature 180° - 200° F (82.3° - 93.3° C) Transmission in NEUTRAL Operating specifications: 25 psi (172.4 kPa) minimum pressure at 2000 rpm and a maximum of 70 psi (482.6 kPa) outlet pressure with engine operating at no-load governed speed.
CONTROLS	Forward and Reverse - Manual High and Low range - Manual Speed Selection - Manual
CLUTCH TYPE	Multiple discs, hydraulically actuated, spring released, automatic wear compensation and no adjustment. All clutches oil cooled and lubricated.
CLUTCH INNER DISC	Friction
CLUTCH OUTER DISC	Steel
OIL FILTTRATION	Full flow oil filter safety by-pass, also strainer screen in sump at bottom of transmission case.
CLUTCH PRESSURE	--- 180 - 220 psi (1241.1 - 1516.8 kPa) --- With parking brake set, oil temperature 180° - 200° F (82.3° - 93.3° C), engine at idle (400 - 600 rpm), shift thru direction and speed clutches. All clutch pressure must be equal within 5 psi (34.5 kPa), clutch pressure varies in any one clutch more than 5 psi (34.5 kPa), repair clutch

WARNING! Always use parking brake when making clutch pressure checks.

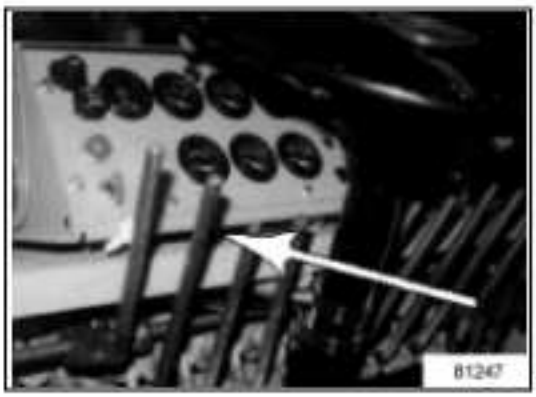
MidWestTech | Komatsu 150A, 150AFA Hydraulic Crane Service Manual | Publication CEB... Order the manual at mid-west-tech.com >

RESETTABLE CIRCUIT BREAKERS

The Hydraulic Crane electrical system has been modified to incorporate manually resettable circuit breakers. The earlier system was equipped with self-resetting circuit breakers which would eventually fail if the electrical fault was not promptly identified and corrected.

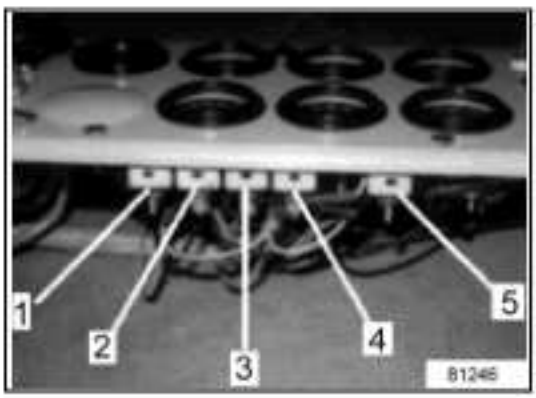
The new manual breakers will respond to an electrical fault and isolate this portion of the circuit until the fault is corrected and the breaker reset.

The manually resettable breakers are located inside the instrument panel at the lower edge of the gauge mounting plate. The reset buttons are accessible without removing the panel or plate.



Location of Resettable Circuit Breakers

Manually Resettable Circuit Breakers



Circuit Breakers are used as follows:

1. Engine (8 A)
2. Wipers (8 A)
3. Heater, Defroster Fan, Horn (20 A)
4. Gauges, Start, Backup Alarm (20 A)
5. Key Switch, Lights (20 A)

MidWestTech | Komatsu 150A, 150AFA Hydraulic Crane Service Manual | Publication CEB... Order the manual at mid-west-tech.com >

A. Remove relief valve cartridge from body without breaking the seal.

i. Inspect cartridge for foreign material holding spool off seat.

ii. Clean valve by inserting proper size rod or tool in end of cartridge, depress plunger and flush foreign material with compressed air or solvent.

iii. If valve cannot be cleaned or if it is sticking open due to scoring, replace complete valve assembly.

WARNING! Do not attempt to disassemble this valve, it is sealed and preset.

4. Faulty winch hydraulic motor.

A. If correct part line is being used, hydraulic pressures are correct and cross line relief valve is functioning properly, the winch motor is faulty. Repair or replace as necessary.

REAR STEERING

REAR STEERING CYLINDERS DRIFT

1. One or both rear steering cylinders leaking Internally.

A. With the rear wheels steered straight and engine shut off, activate the rear steering manifold control lever in both directions to relieve the hydraulic pressure.

B. Remove access cover to hydraulic manifold on the front of the operator's platform.

C. Disconnect the rear steering oil supply tubes at the hydraulic manifold and cap both tubes.

D. Start engine, (do not activate rear steering manifold control) and road test crane.

E. If the rear wheels drift, one or both of the rear steering cylinders are leaking internally.

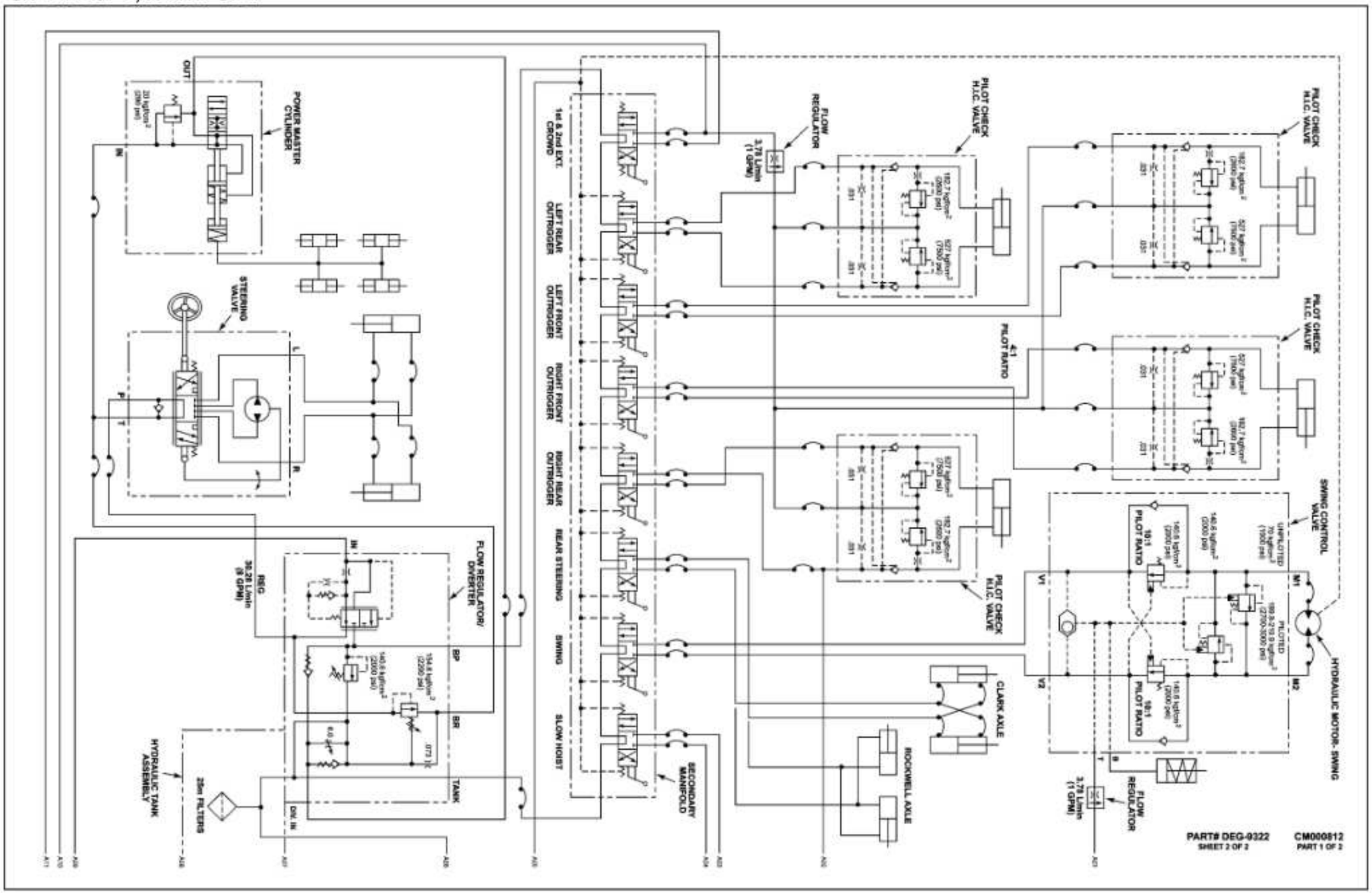
i. Repair or replace cylinders as necessary.

F. If the rear wheels do not drift in Step E, the manifold control valve is leaking internally.

i. Replace complete rear steering manifold control valve.

MidWestTech | Komatsu 150A, 150AFA Hydraulic Crane Service Manual | Publication CEB... Order the manual at mid-west-tech.com >

150FA - SHEET 2 OF 2, PART 1 OF 2



MidWestTech | Komatsu 150A, 150AFA Hydraulic Crane Service Manual | Publication CEBM001400 Order the manual at mid-west-tech.com >