GENERAL SPECIFICATIONS

Model					DX160LC-3		Measured
Description	Test Items			Unit	P-MODE	Tolerance	
engine RPM	No Load	Maximum RPM	P+ Mode	rpm	1,950	±25	
			P Mode	rpm	1,750	±25	
			S Mode	rpm	1,700	±25	
			E Mode	rpm	1,650	±25	
		Pump EPPR Current	P+ Mode	mA	150	±30	
			P Mode	mA	170	±30	
			S Mode	mA	200	±30	
			E Mode	mA	240	±30	
		Minimum RPM		rpm	800	±20	
		AUTO IDLE		rpm	800	±20	
	Load	1 Pump Relief	P+ Mode	rpm	1,850	Over	
			P Mode	rpm	1,750	Over	
			S Mode	rpm	1,700	Over	
			E Mode	rpm	1,650	Over	
		2 Pump Relief	P+ Mode	rpm	1,850	Over	
			P Mode	rpm	1,750	Over	
			S Mode	rpm	1,700	Over	
			E Mode	rpm	1,650	Over	
Pressure SET	PUMP	Normal		bar	324	0 ~ +10	
		Up pressure		bar	343	0 ~ +10	
	SWING	@MOTOR		sec	270	0 ~ +10	
FRONTOnly Speed	Arti BOOM	UP	P+ Mode	sec	5.8	±0.4	
		DOWN	P+ Mode	sec	4.4	±0.3	
	BOOM	UP	P+ Mode	sec	3.0	±0.4	
		DOWN	P+ Mode	sec	2.5	±0.3	
	ARM	CROWD	P+ Mode	sec	2.8	±0.4	
		DUMP	P+ Mode	sec	2.2	±0.3	
	BKT	CROWD	P+ Mode	sec	3.8	±0.4	
		DUMP	P+ Mode	sec	2.1	±0.3	
Dozer Full stoke	Dozer	UP	P+ Mode	sec	4.2	±0.4	
		DOWN	P+ Mode	sec	3.2	±0.4	
Swing Speed	Swing	3 Turns		sec	16.9	±1.5	
Travel Speed	On ground (20m)	Low speed	P+ Mode	sec	28.2	±1.5	
		High speed	P+ Mode	sec	18.0	±1.5	
	JACK UP (3turns)	Low speed	P+ Mode	sec	33.1	±2.0	
		High speed	P+ Mode	sec	20.9	±2.0	
Swing Coasting	Swing BRG	After 360° Swing		mm	526(50°)	±255 (±20°)	
Cylinder Creeping	FRONT	BOOM		mm/5min	20	Below	
		ARM		mm/5min	20	Below	
		BKT		mm/5min	20	Below	
TRACK	TRACK tension			mm	-		
Travel Deviation	20m Travel	Low speed		mm	150	Below	
		High speed		mm	150	Below	

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

General Maintenance Instructions

Edition 3

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TORQUE VALUES FOR STANDARD METRIC FASTENERS

NOTE: *The units for the torque values are kg•m (ft lb).*

Dia. x Pitch (mm)	Grade										
	3.6 (4A)	4.6 (4D)	4.8 (4S)	5.6 (5D)	5.8 (5S)	6.6 (6D)	6.8 (6S)	6.9 (6G)	8.8 (8G)	10.9 (10K)	12.9 (12K)
M5 x Std.	0.15 (1.08)	0.16 (1.15)	0.25 (1.80)	0.22 (1.59)	0.31 (2.24)	0.28 (2.02)	0.43 (3.11)	0.48 (3.47)	0.50 (3.61)	0.75 (5.42)	0.90 (6.50)
M6 x Std.	0.28 (2.02)	0.30 (2.16)	0.45 (3.25)	0.40 (2.89)	0.55 (3.97)	0.47 (3.39)	0.77 (5.56)	0.85 (6.14)	0.90 (6.50)	1.25 (9.04)	1.50 (10.84)
M7 x Std.	0.43 (3.11)	0.46 (3.32)	0.70 (5.06)	0.63 (4.55)	0.83 (6.00)	0.78 (5.64)	1.20 (8.67)	1.30 (9.40)	1.40 (10.12)	1.95 (14.10)	2.35 (16.99)
M8 x Std.	0.70 (5.06)	0.75 (5.42)	1.10 (7.95)	1.00 (7.23)	1.40 (10.12)	1.25 (9.04)	1.90 (13.74)	2.10 (15.18)	2.20 (15.91)	3.10 (22.42)	3.80 (27.48)
M8 x 1	0.73 (5.28)	0.80 (5.78)	1.20 (8.67)	1.00 (7.23)	1.50 (10.84)	1.35 (9.76)	2.10 (15.18)	2.30 (16.63)	2.40 (17.35)	3.35 (24.23)	4.10 (29.65)
M10 x Std.	1.35 (9.76)	1.40 (10.12)	2.20 (15.91)	1.90 (13.74)	2.70 (19.52)	2.35 (19.99)	3.70 (26.76)	4.20 (30.37)	4.40 (31.18)	6.20 (44.84)	7.20 (52.07)
M10 x 1.25	1.50 (10.84)	1.60 (11.57)	2.50 (18.08)	2.10 (15.18)	3.10 (22.42)	2.80 (20.25)	4.30 (31.10)	4.90 (35.44)	5.00 (36.16)	7.00 (50.63)	8.40 (60.75)
M12 x Std.	2.40 (17.35)	2.50 (18.08)	3.70 (26.76)	3.30 (23.86)	4.70 (33.99)	4.20 (30.37)	6.30 (45.56)	7.20 (52.07)	7.50 (54.24)	10.50 (75.94)	12.50 (90.41)
M12 x 1.25	2.55 (18.44)	2.70 (19.52)	4.00 (28.93)	3.50 (25.31)	5.00 (36.16)	4.50 (32.54)	6.80 (49.18)	7.70 (55.69)	8.00 (57.86)	11.20 (81.00)	13.40 (96.92)
M14 x Std.	3.70 (26.76)	3.90 (28.20)	6.00 (13.23)	5.20 (37.61)	7.50 (54.24)	7.00 (50.63)	10.00 (72.33)	11.50 (83.17)	12.00 (86.79)	17.00 (122.96)	20.00 (144.66)
M14 x 1.5	4.10 (29.65)	4.30 (31.10)	6.60 (47.73)	5.70 (41.22)	8.30 (60.03)	7.50 (54.24)	11.10 (80.28)	12.50 (90.41)	13.00 (94.02)	18.50 (11.26)	22.00 (158.12)
M16 x Std.	5.60 (40.50)	6.00 (43.39)	9.00 (65.09)	8.00 (57.86)	11.50 (83.17)	10.50 (75.94)	15.50 (112.11)	17.90 (129.47)	18.50 (133.81)	26.00 (188.05)	31.00 (224.22)
M16 x 1.5	6.20 (44.84)	6.50 (47.01)	9.70 (70.16)	8.60 (62.20)	12.50 (90.41)	11.30 (81.73)	17.00 (122.96)	19.50 (141.04)	20.00 (144.66)	28.00 (202.52)	35.50 (256.77)
M18 x Std.	7.80 (56.41)	8.30 (60.03)	12.50 (90.41)	11.00 (79.56)	16.00 (115.72)	14.50 (104.87)	21.00 (151.89)	27.50 (198.90)	28.50 (206.14)	41.00 (296.55)	43.00 (311.01)
M18 x 1.5	9.10 (65.82)	9.50 (68.71)	14.40 (104.15)	12.50 (90.41)	18.50 (133.81)	16.70 (120.79)	24.50 (177.20)	27.50 (198.90)	28.50 (206.14)	41.00 (296.55)	49.00 (354.41)
M20 x Std.	11.50 (83.17)	12.00 (86.79)	18.00 (130.19)	16.00 (115.72)	22.00 (159.12)	19.00 (137.42)	31.50 (227.83)	35.00 (253.15)	36.00 (260.38)	51.00 (368.88)	60.00 (433.98)
M20 x 1.5	12.80 (92.58)	13.50 (97.64)	20.50 (148.27)	18.00 (130.19)	25.00 (180.82)	22.50 (162.74)	35.00 (253.15)	39.50 (285.70)	41.00 (296.55)	58.00 (419.51)	68.00 (491.84)
M22 x Std.	15.50 (112.11)	16.00 (115.72)	24.50 (177.20)	21.00 (151.89)	30.00 (216.99)	26.00 (188.05)	42.00 (303.78)	46.00 (332.71)	49.00 (354.41)	67.00 (484.61)	75.00 (542.47)
M22 x 1.5	17.00 (122.96)	18.50 (133.81)	28.00 (202.52)	24.00 (173.59)	34.00 (245.92)	29.00 (209.75)	47.00 (339.95)	52.00 (44.76)	56.00 (405.04)	75.00 (542.47)	85.00 (614.80)
M24 x Std.	20.50 (148.27)	21.50 (155.50)	33.00 (238.68)	27.00 (195.29)	40.00 (289.32)	34.00 (245.92)	55.00 (397.81)	58.00 (419.51)	63.00 (455.67)	82.00 (593.10)	92.00 (655.43)
M24 x 2.0	23.00 (166.35)	35.00 (253.15)	37.00 (267.62)	31.00 (224.22)	45.00 (325.48)	38.00 (202.52)	61.00 (441.21)	67.00 (484.61)	74.00 (535.24)	93.00 (672.66)	103.00 (744.99)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

HYDRAULIC SYSTEM - GENERAL NOTES

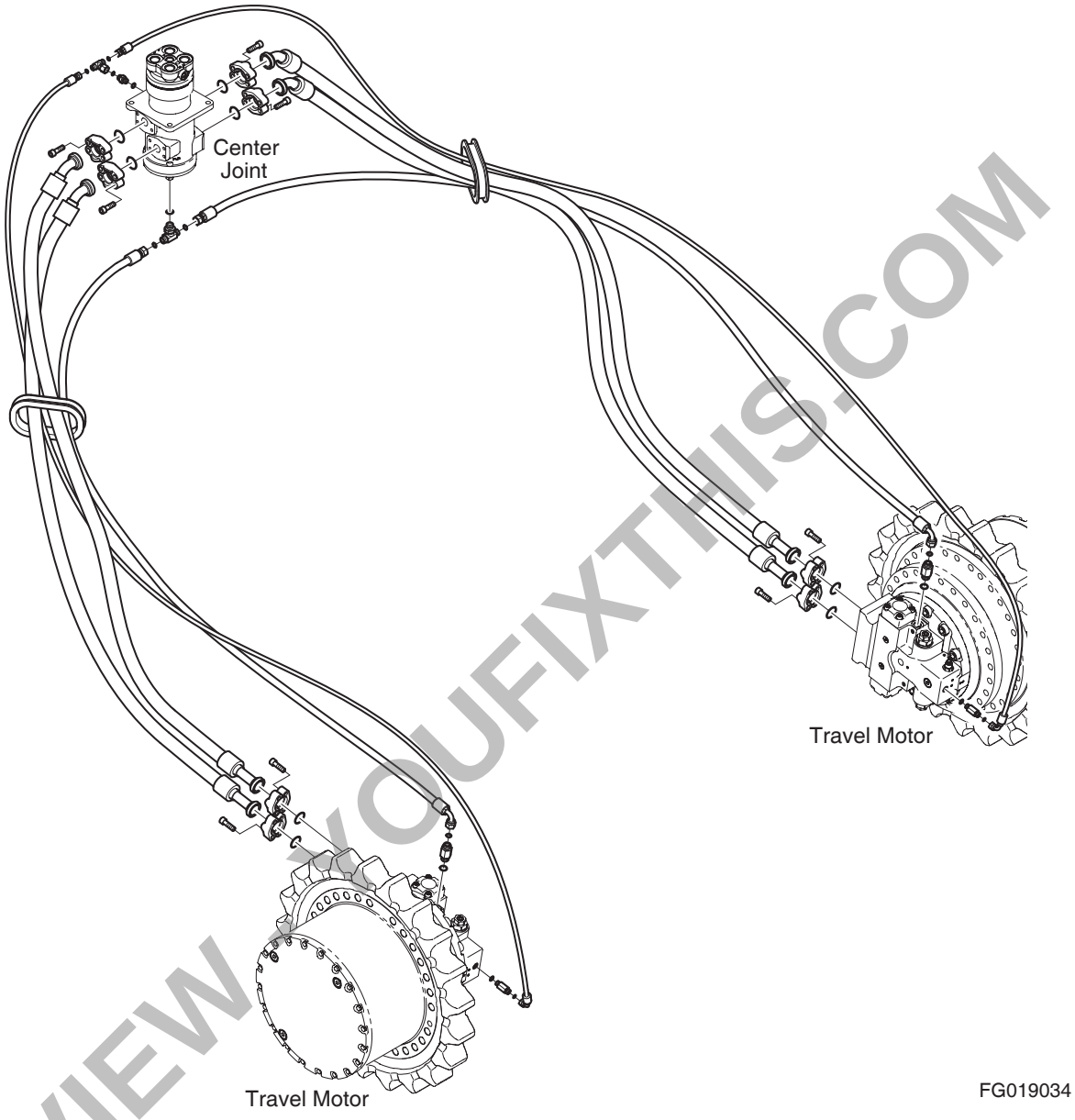


Figure 1

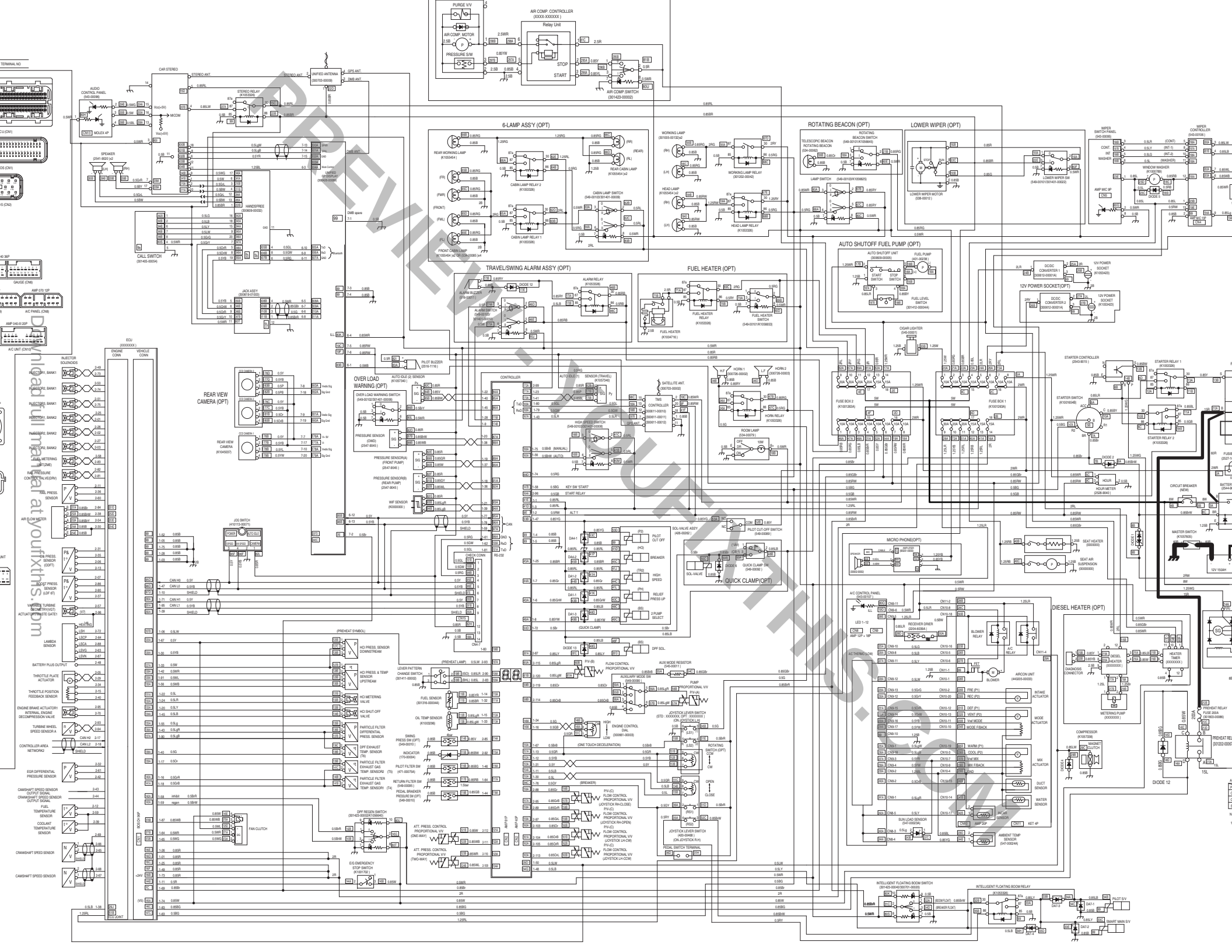
The hydraulic system has several improvements over conventional hydraulic systems - including cross sensing total horsepower control - to maximize output efficiency.

The system features an electronically controlled output optimization system, which allows the operator to choose between two, distinctly different power modes: high output/rapid cycling maximum speed power mode, and a standard power mode for most types of general operation.

Electronic management of hydraulic control valves assists in optimizing the application speed and overall operator control of hydraulic actuators and functions.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com


PURGE V/V
AIR COMP. CONTROLLER
(XXXX-XXXXXX)
Relay Unit
AIR COMP. MOTOR
PRESSURE S/W
STOP
START
AIR COMP.SWITCH
(301423-00002)
CAR STEREO
STEREO ANT.
UNIFIED ANTENNA
(300720-00009)
GPS ANT.
DMB ANT.
AUDIO
CONTROL PANEL
(543-00098)
STEREO RELAY
(K1053324)
MCOM
SPEAKER
(2541-9020)x2
HANDSFREE
(300809-00002)
CALL SWITCH
(301405-00054)
6-LAMP ASS'Y (OPT)
REAR WORKING LAMP
(K1053454)
CABIN LAMP RELAY 2
(K1053326)
WORKING LAMP
(301005-00102)x2
WORKING LAMP RELAY
(301202-00042)
ROTATING BEACON (OPT)
TELESCOPIC BEACON
ROTATING BEACON
(534-00062)
ROTATING
BEACON SWITCH
(549-00101(K1058845)
LOWER WIPER (OPT)
LOWER WIPER MOTOR
(538-00012)
LOWER WIPER SW
(549-00101(301401-00002)
WIPER
SWITCH PANEL
(543-00095)
WIPER
CONTROLLER
(543-00106)
WINDOW WASHER
(K1060399)
AMP MIC 9P
AMP MIC 10P
FRONT CABIN LAMP
(K1053454)x2 OR (539-00005)x4
CABIN LAMP RELAY 1
(K1053326)
CABIN LAMP SWITCH
(549-00102(301401-00003)
HEAD LAMP
(K1053454)x2
HEAD LAMP RELAY
(K1053326)
LAMP SWITCH
(549-00103(K1058825)
AUTO SHUTOFF FUEL PUMP (OPT)
AUTO SHUTOFF UNIT
(503609-00005)
FUEL PUMP
(401-00238)
START
SWITCH
STOP
SWITCH
FUEL LEVEL
SWITCH
(301412-00004A)
12V POWER SOCKET(OPT)
DC/DC
CONVERTER 1
(300612-00001A)
12V POWER
SOCKET
(K1053423)
DC/DC
CONVERTER 2
(300612-00001A)
TRAVEL/SWING ALARM ASS'Y (OPT)
ALARM BUZZER
(976-00011)
ALARM RELAY
(K1053329)
ALARM SWITCH
(549-00105
(301421-00012)
FUEL HEATER (OPT)
FUEL HEATER
RELAY
(K1053326)
FUEL HEATER
SWITCH
(549-00101(K1058823)
FUEL HEATER
(K1004716)
CIGAR LIGHTER
(545-00001)
STARTER CONTROLLER
(2543-9015)
STARTER RELAY 1
(K1053326)
STARTER SWITCH
(K1001648)
STARTER RELAY 2
(K1053326)
DIODE 3
HOUR METER
(2528-9040)
CIRCUIT BREAKER
(NEW)
MASTER SWITCH
(K1057605)
12V 150AH
BATTERY
(2544-9
FUSE BOX 2
(K1012383A)
FUSE BOX 1
(K1012154A)
HORN 1
(300726-00002)
HORN 2
(300726-00003)
HORN RELAY
(K1053326)
ROOM LAMP
(534-00079)
ECU
(XXXXXXX)
ENGINE
CONN
VEHICLE
CONN
INJECTOR
SOLENOIDS
INJECTOR1, BANK1
INJECTOR2, BANK1
INJECTOR1, BANK2
INJECTOR2, BANK2
FUEL METERING
UNIT(ONE)
RAIL PRESSURE
CONTROL VALVE(DRV)
RAIL PRESS.
SENSOR
AIR FLOW METER
OIL PRESS.
SENSOR
(ODFT)
BOOST PRESS
SENSOR
(LDF ET)
VARIABLE TURBINE
GEOMETRY(VGT)
ACTUATOR/WASTE GATE1
LAMBDA
SENSOR
BATTERY PLUS OUTPUT
THROTTLE PLATE
ACTUATOR
THROTTLE POSITION
FEEDBACK SENSOR
ENGINE BRAKE ACTUATOR1
INTERNAL ENGINE
DECOMPRESSION VALVE
TURBINE WHEEL
SPEED SENSOR A
CONTROLLER AREA
NETWORK2
EGR DIFFERENTIAL
PRESSURE SENSOR
CAMSHAFT SPEED SENSOR
OUTPUT SIGNAL
CRANKSHAFT SPEED SENSOR
OUTPUT SIGNAL
FUEL
TEMPERATURE
SENSOR
COOLANT
TEMPERATURE
SENSOR
CRANKSHAFT SPEED SENSOR
CAMSHAFT SPEED SENSOR
REAR VIEW
CAMERA (OPT)
REAR VIEW
CAMERA
(K1045037)
OVER LOAD
WARNING (OPT)
OVER LOAD WARNING SWITCH
(549-00100(301401-00006)
PRESSURE SENSOR
(CND)
(2547-9045)
PRESSURE SENSOR(A)
(FRONT PUMP)
(2547-9045)
PRESSURE SENSOR(B)
(REAR PUMP)
(2547-9045)
W/F SENSOR
(K0000000)
AUTO IDLE (2) SENSOR
(K1057340)
CONTROLLER
(PREHEAT SYMBOL)
HCI PRESS. SENSOR
DOWNSTREAM
HCI PRESS. & TEMP
SENSOR
UPSTREAM
HCI METERING
VALVE
HCI SHUT-OFF
VALVE
DPF EXHAUST
TEMP. SENSOR
(T6)
PARTICLE FILTER
DIFFERENTIAL
PRESS. SENSOR
PARTICLE FILTER
EXHAUST GAS
TEMP. SENSOR(T5)
PARTICLE FILTER
EXHAUST GAS
TEMP. SENSOR(T4)
DPF REGEN SWITCH
(301422-00002(K1058540)
FAN CLUTCH
E/G EMERGENCY
STOP SWITCH
(K1001702)
JOG SWITCH
(410313-00071)
LEVER PATTERN
CHANGE SWITCH
(301411-00002)
FUEL SENSOR
(301316-00004A)
OIL TEMP SENSOR
(K1003298)
SWING
PRESS SW (OPT)
(549-00010)
INDICATOR
(170-00004)
PILOT FILTER SW
(471-00075A)
RETURN FILTER SW
(549-00095)
PEDAL BREAKER
PRESSURE SW (OPT)
(549-00010)
ATT. PRESS. CONTROL
PROPORTIONAL V/V
(ONE-WAY)
ATT. PRESS. CONTROL
PROPORTIONAL V/V
(TWO-WAY)
CONTROLLER
(300611-00010)
(300611-00011)
(300611-00012)
SATELLITE ANT.
(300703-00002)
AUTO IDLE (2) SENSOR
(K1057340)
HIGH SPEED SWITCH
(549-00103(301401-00008)
KEY SW 'START'
START RELAY
ALT.T
SOL-VALVE ASSY
(426-00262)
PILOT CUT-OFF SWITCH
(549-00089)
QUICK CLAMP SW
(549-00092)
QUICK CLAMP(OPT)
DIODES
SOL-VALVE
MICRO PHONE(OPT)
SEAT HEATER
(0000000)
SEAT AIR
SUSPENSION
(0000000)
A/C CONTROL PANEL
(543-00107)
AMP 12P + 16P
LED 1 ~12
RECEIVER DRIER
(2204-9209A)
A/C RELAY
BLOWER
RELAY
BLOWER
FET
AIRCON UNIT
(442205-00003)
DIESEL HEATER (OPT)
DIAGNOSIS
CONNECTOR
DIESEL
HEATER
TIMER
(XXXXXXX)
METERING PUMP
(XXXXXXX)
COMPRESSOR
(K1057306)
MAGNET
CLUTCH
INTAKE
ACTUATOR
MODE
ACTUATOR
MIX
ACTUATOR
DUCT
SENSOR
WATER
SENSOR
INCAR
SENSOR
AMBIENT TEMP
SENSOR
(547-00024A)
KET 4P
AMP 20P
SUN LOAD SENSOR
(547-00025A)
INTELLIGENT FLOATING BOOM RELAY
(K1053326)
INTELLIGENT FLOATING BOOM SWITCH
(301422-00040/300707-00020)
PILOT S/V
SWIRT MAIN S/V
PREHEAT RELAY
FUSE 200A
(301302-00086)
DIODE 12
PREVIEW - YOUFIXTHIS.COM
Download at youfixths.com

REMOVAL

1. Park on firm and level ground.
2. Lower bucket or work tool to ground.
3. Stop engine.
4. Move safety lever to "RELEASED" (UNLOCK) position.
5. Turn starter switch to "I" (ON) position.

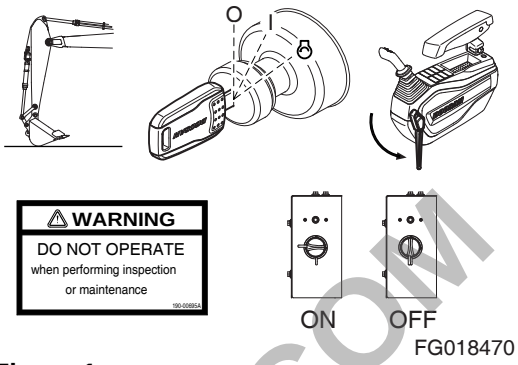


Figure 1

WARNING

AVOID DEATH OR SERIOUS INJURY

If engine must be running while performing maintenance, use extreme care. Always have one person in the cabin at all times. Never leave the cabin with the engine running.

6. To relieve pressure from accumulators, fully stroke work levers in all directions. Movement can occur.
7. Move safety lever to "LOCK" position.
8. Turn key to "O" (OFF) position and remove from starter switch.
9. Install maintenance warning tag on controls.
10. Disconnect the battery cable from the negative (-) battery terminal.
11. Prepare cabin shell for removal by disconnecting wiring connectors for:
    A. Cabin interior lighting.
    B. External light wiring.
    C. Radio antenna and connections.
    D. Wiper/washer connections.

NOTE: *Control console wiring harnesses and hydraulic piping lines that pass through the floor of the cabin do not need to be disassembled.*

NOTE: *If cabin is equipped with additional protective guards over cabin openings, they must be removed.*

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Failure Code at Machine

GP Display Code	GP Display Description	Measuring Point	Correct Value		Remarks
			Active	Passive	
V000201	Gauge Panel Error	CN6-4, CN6-5		R = 60 ±5 Ω	It is a composite resistance of CAN line. This value has to be measured by connected condition of CAN line.
V000202	E-ECU Error	CN1-72, CN1-78			
		CAN H, GND CAN L, GND			
V000210	Pump P/V (A)	CN2-119, CN2-114		R = 13.5 ±2 Ω (25°C (77°F))	
V000211	Pump P/V (B)	CN3-16, CN3-8		R = 12.5 ±2 Ω (25°C (77°F))	
V000212	Flow Control P/V (C) 2-way LH-H	CN2-88, CN2-95			R = 18 ±2 Ω (25°C (77°F))
V000213	Flow Control P/V (D) 2-way RH-H	CN2-89, CN2-97			R = 18 ±2 Ω (25°C (77°F))
V000214	Flow Control P/V (E) Rotating CW	CN2-103, CN2-104			R = 18 ±2 Ω (25°C (77°F))
V000215	Flow Control P/V (F) Rotating CCW	CN2-105, CN2-113			R = 18 ±2 Ω (25°C (77°F))
V000216	Flow Control P/V (G)	CN2-115, CN2-120		R = 13.5 ±2 Ω (25°C (77°F))	
V000217	Press. Control1 P/V (H)	CN2-112, CN2-111		R = 9.5 ±2 Ω (25°C (77°F))	
V000218	Press. Control 2 P/V (I)	CN2-110, CN2-109		R = 9.5 ±2 Ω (25°C (77°F))	
V000219	Fan Control P/V (J)	CN2-116, CN2-121		R = 22.5 ±2 Ω (25°C (77°F))	
V000220	Travel Straight P/V (L)	CN3-15, CN3-7			R = 18 ±2 Ω (25°C (77°F))
V000223	Breaker Operating S/V	CN1-1, CN1-25	V = V_volt (Note 4)		
V000224	Relief Press. Up S/V (B)	CN1-1, CN1-6	V = V_volt		
V000225	High-speed S/V (C)	CN1-1, CN1-7	V = V_volt	Inching Relay	
V000226	Spare S/V (D)	CN1-1, CN1-26	V = V_volt	Low Speed Relay	
V000227	Reverse Fan S/V (E) - Negacon Cut	CN1-1, CN1-87	V = V_volt	Hi Speed Relay	
V000228	Cruise S/V (F)	CN1-1, CN2-106	V = V_volt		

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TROUBLESHOOTING – SWING GEARBOX

Problem	Possible Cause	Remedy
Swing motor fails to operate and:		
Three pressure tests at motor, brake or makeup valve show low reading (s).	Swing relief valve defective. Brake release valve defective. Motor makeup valve defective.	Adjust pressure to recommended range in affected valve. OR Disassemble and clean valve assembly. Replace all valve components that show damage.
All three pressure checks are OK but left travel also fails to run.	Exchange front and rear pump inlet and outlet hoses to test pump function.	If swing and left travel are restored but right travel stops working, replace or repair P1 pump.
All three pressure tests are OK, but machine fails to swing at all.	Brake assembly or motor friction plate failing to release.	Check for binding. Disassemble and repair.
	Pilot (control) pressure low or swing control valve stuck.	Disassemble/Repair pilot pressure swing spool (305) and / or swing control valve.
	Swing motor defective.	Test motor drain rate. Replace/Repair motor.
	Gear train defective.	Refer to "Swing Gear Troubleshooting" procedure.
Swing functions but only at reduced rpm.	Causes listed above could also produce dragging swing, or hot or wrong oil OR worn-out parts.	Check above list; then replace oil, test motor drain rate and check for "03" reading (EPOS self-test).
Left travel speed is also reduced.	Low output at P1 pump or external pilot piping leaks/is clogged.	Clean and repair piping or repair or replace pump P1.
Swing control movement is reversed.	Inlet/Outlet piping reversed.	Reset controls or reverse piping.
Machine swings but continues moving past stopping point.	Swing control valve spool not centered.	Replace return spring; clean/ repair valve piston and spool.
	Pilot pressure may be outside range.	Disassemble, clean or replace pilot relief valve or pilot valve.
	Swing relief valve may be faulty.	Repair/Replace swing relief valve.
Swing movement is in one direction only.	Check to see that pilot pressure is the same right and left.	If pilot pressure is unequal, clean or repair piping or repair/replace valve.
	Swing control valve spool may be stuck.	Repair/Replace the swing control valve.
	Swing relief valve may be faulty.	Repair/Replace the swing relief valve.
No rotation and:		
Pressure at swing motor inlet increases.	Swing brake not releasing.	Check brake engagement and disengagement; check release pressure.
	Internal damage to gearbox drivetrain.	Replace broken gears and drivetrain assemblies.
	Overload.	Reduce load weight.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Table of Contents

Safety

Track Excavator Maintenance Safety SP002322

Specifications

Specifications for DX160LC-3..... SP002509

General Maintenance

General Maintenance Instructions SP002454
Standard Torques SP002404

Upper Structure

Cabin SP002324
Counterweight..... SP002510
Fuel Tank..... SP002511
Fuel Transfer Pump (Option) SP002546
Swing Bearing..... SP002329
Swing Reduction Gear..... SP002526

Lower Structure and Chassis

Track Assembly SP002524

Engine and Drivetrain

Engine Coolant Heater (Option) SP002328
Drive Coupling (Main Pump)..... SP002515

Hydraulics

Hydraulic System Troubleshooting, Testing and Adjustment SP002538
Accumulator..... SP002455
Center Joint (Swivel)..... SP002456

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Track Excavator Maintenance Safety

Edition 3

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Cylinders SP002539
Swing Motor SP002527
Travel Device SP002514
Main Pump SP002517
Gear Pump SP002500
Main Control Valve SP002528
Remote Control Valve (Work Lever / Joystick) SP002395
Travel Control Valve (with Damper) SP002381
Solenoid Valve Assembly SP002406
Breaker EPPR Valve (Option) SP002458
Dozer Valve SP002529
Hydraulic Schematic (DX160LC-3) SP002518

Electrical System

Electrical System SP002337
Electrical Schematic SP002508

Attachments

Boom and Arm SP002513
Bucket SP002506

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ENVIRONMENT AND CIRCUMSTANCES

Work Site Areas Requiring Extra Caution

- Do not operate too close to edge of a quay, ramp, etc.
- Do not operate too close to edge of a steep slope or drop-off. Take care when working in a place where machine may tip over.
- Do not operate on soft ground or near riverbanks that could collapse or where ground may not support weight of excavator.
- Observe changes in ground and traction conditions after a rain or other changes in weather.

Digging Under an Overhang

Do not dig work face under an overhang. This can cause overhang to collapse and fall on top of the machine.

- Do not perform overhead demolition work. This can cause broken objects and debris to fall on top of machine causing death or serious injury, or property damage.

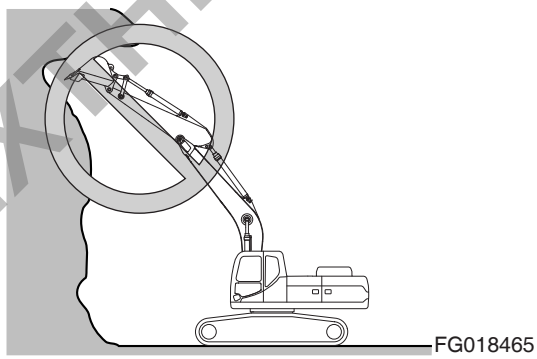


Figure 50

Deep Digging

Do not perform deep digging under front of machine. The ground under machine may collapse and cause machine to fall resulting in death or serious injury.

Working heavy loads on loose, soft or uneven ground, can cause side load conditions resulting in a tip over and injury. Traveling without a load or a balanced load may also be hazardous.

Never rely on lift jacks or other inadequate supports when work is being done. Block tracks fore and aft to prevent any movement.

Use machine only for its intended purpose. Using it for other purposes will cause failures.

- Do not perform demolition work under machine. There is a hazard that the machine may become unstable and tip over.
- When working on or from top of buildings or other structures, check if structure can support weight of machine and attachment. If a building structure collapses, this can cause death or serious injury.

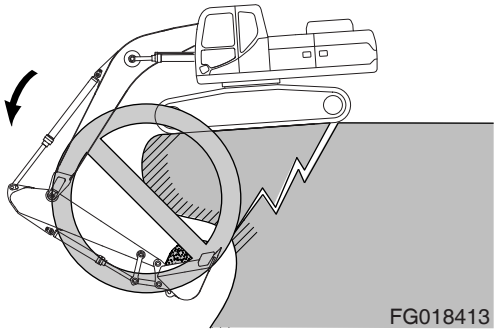


Figure 51

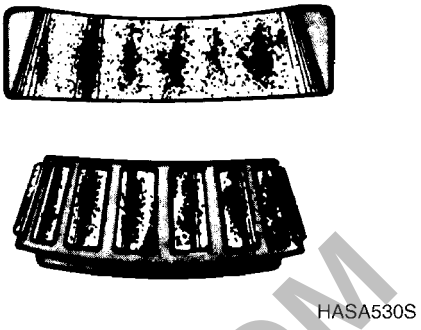
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Fatigue Spalling

Flaking of surface metal resulting from fatigue.

Replace bearing - clean all related parts.



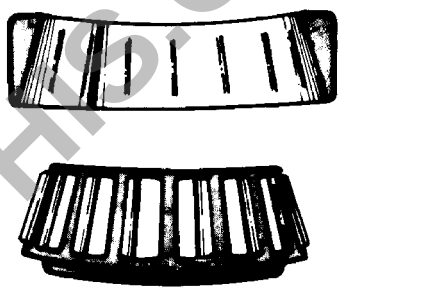
HASA530S

Figure 10

Brinelling

Surface indentations in raceway caused by rollers either under impact loading or vibration while the bearing is not rotating.

Replace bearing if rough or noisy.



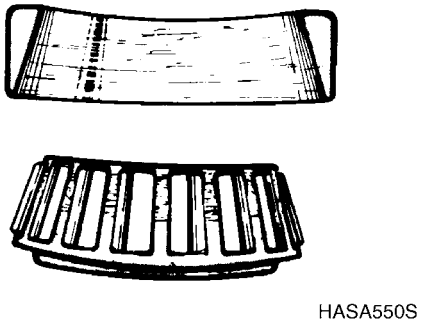
HASA540S

Figure 11

Cage Wear

Wear around outside diameter of cage and roller pockets caused by abrasive material and inefficient lubrication.

Replace bearings - check seals.



HASA550S

Figure 12

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

11. Make sure fuel tank drain valve (Figure 20) right side door is closed.
12. Fill fuel tank and check for signs of leaks. Correct any problems found.
13. Turn disconnect switch to "ON" position.

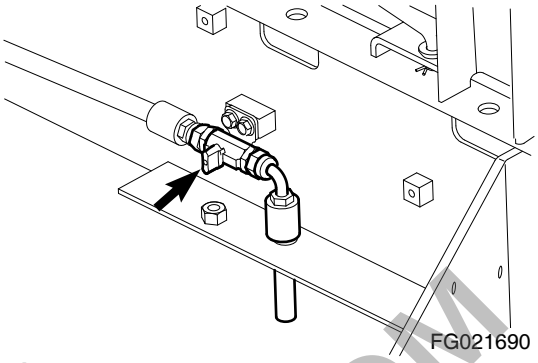


Figure 20

14. Install five bolts (23, Figure 21) and cover (24) on fuel tank.

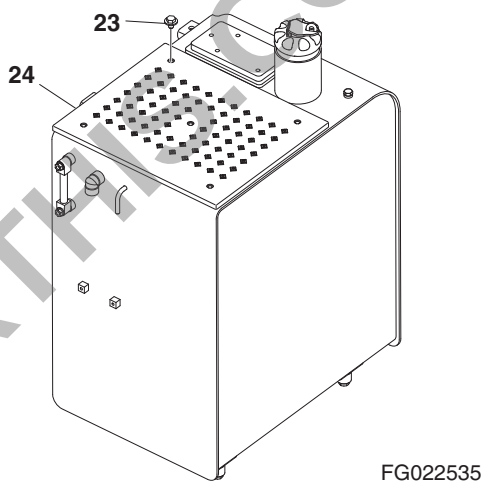


Figure 21

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

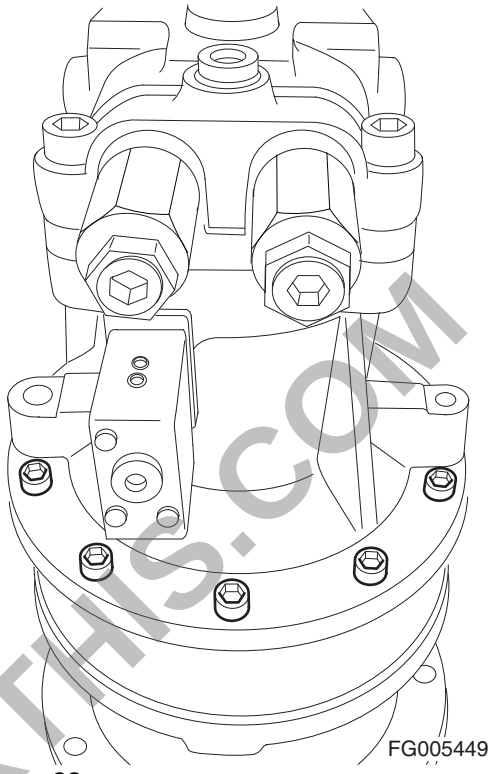


Figure 93

E. Seal the level gauge port of the motor with teflon tape and use pipe wrench to tighten the level gauge pipe.

CAUTION

AVOID INJURY

Do not insert the level gauge before filling gear oil.

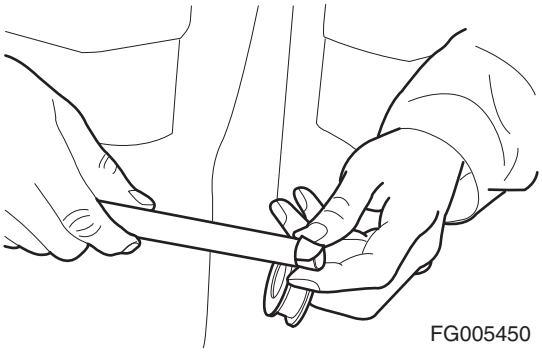


Figure 94

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

GENERAL DESCRIPTION

The center joint (swivel) is designed to allow hydraulic oil from the upper structure to flow to components in the lower structure.

It is capable of allowing continuous 360° rotation of the upper structure in relationship to the lower structure.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

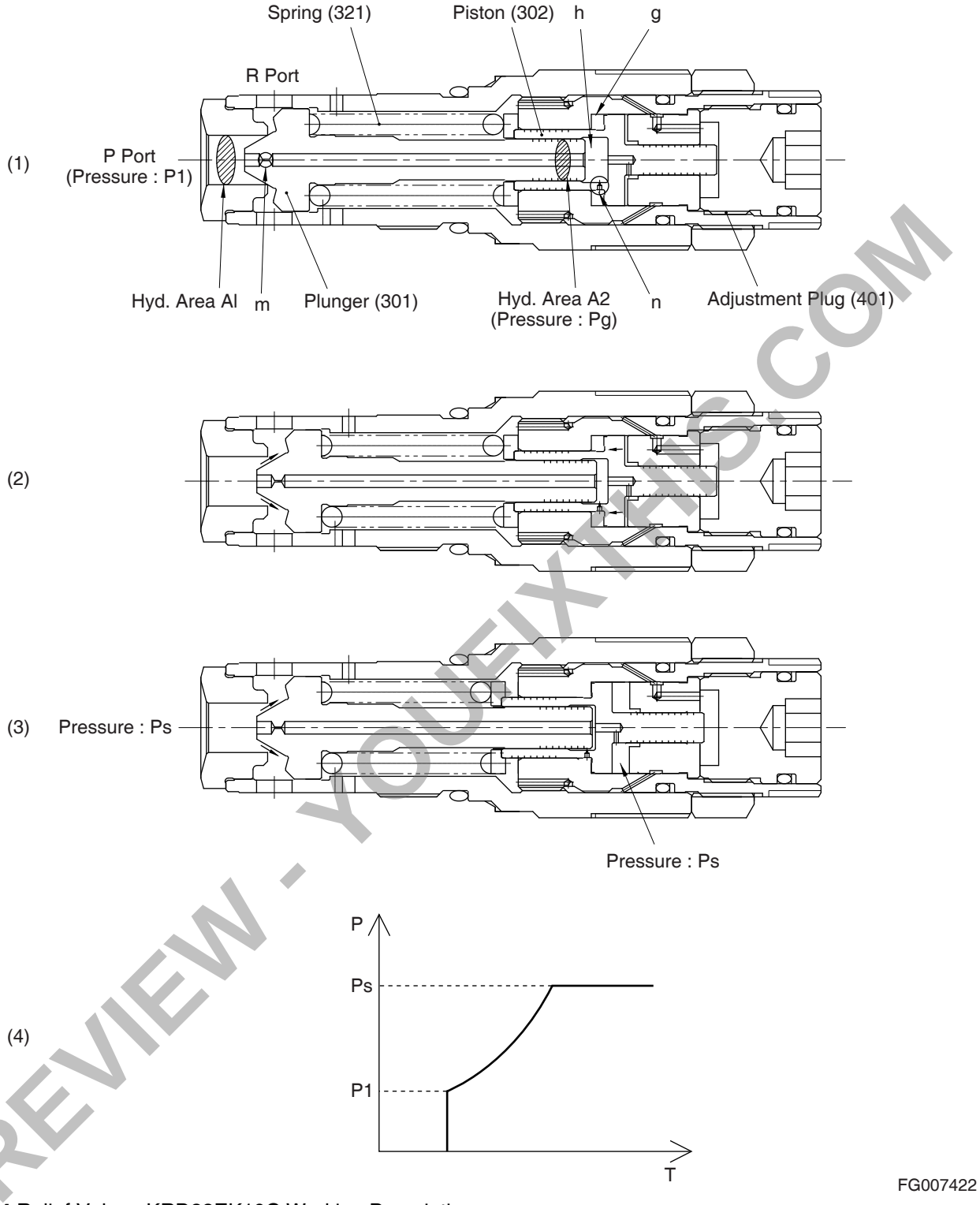


Figure 4 Relief Valve : KRD22EK10C Working Description

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Disassembly of Hydraulic Motor

1. Remove relief valves (2 pcs.) from the rear flange (1).
   - No. 32 hex socket/torque wrench

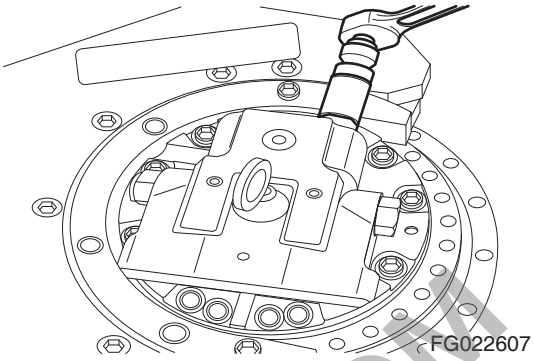


Figure 46

2. Loosen the socket bolts (43) (8 pcs.) and remove them from the rear flange (1).
   - No. 14 hex wrench

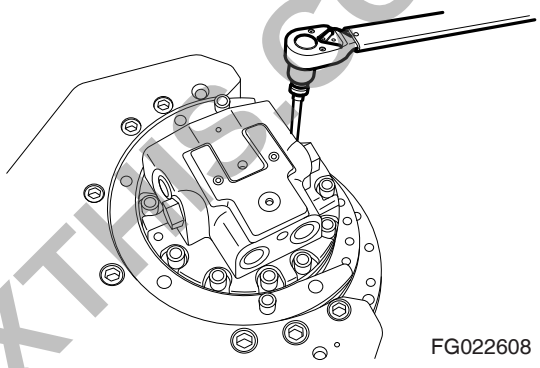


Figure 47

3. Remove rear flange (1) from the spindle (101).
4. Remove springs (213) (10 pcs.).

   NOTE: *Remove them carefully by holding the rear flange (1) with both hands. Twisting or hitting with excessive force may drop the timing plate (209) and spring (213) and damage them.*

   NOTE: *In such case, disassemble it by inserting a steel rod into the cast hole of the rear flange.*

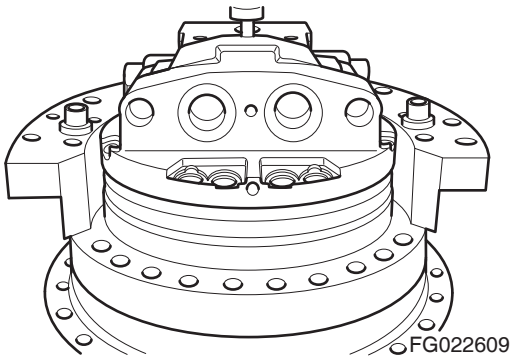


Figure 48

5. Remove parallel pin (42) from the spindle (101).

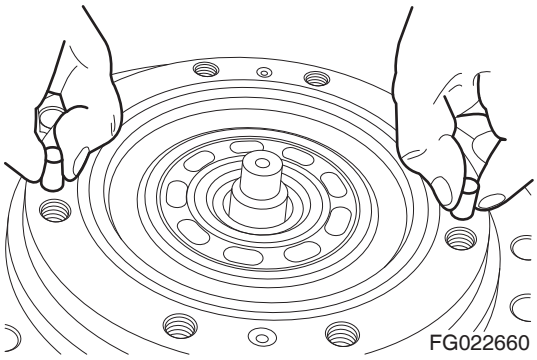


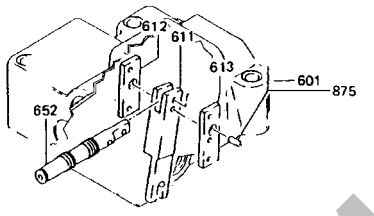
Figure 49

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

7. Assemble lever (613) onto feedback lever (611).

   NOTE: *Make certain pin (875) at the lower portion of lever (613) is properly mated with groove in piston (643).*

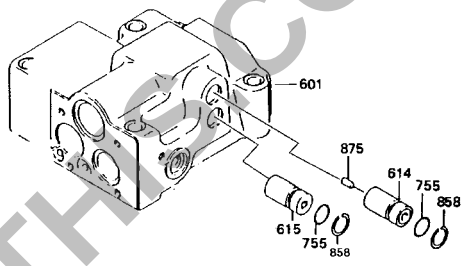


HAOF100S

Figure 41

8. Install O-rings (755) onto portion (614) and adjusting (615) plugs. Insert pin (875) into portion plug. Install both plugs into their proper bore and secure with retaining rings (858).

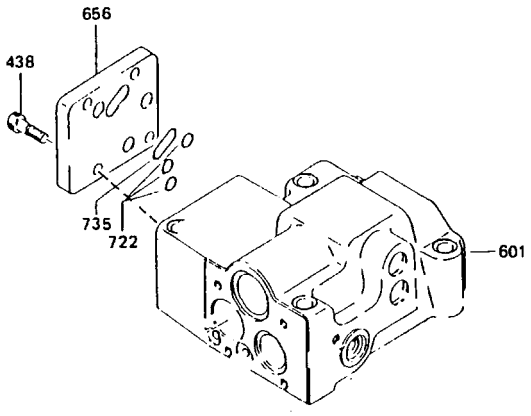
   NOTE: *Be certain to install plugs into correct bore. Feedback lever should move freely and not bind up.*



HAOF050S

Figure 42

9. Install O-rings (722, 735) into cover and mount cover (656) onto block using four Allen head bolts (438).



HAOF040S

Figure 43

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

4. For the oil flow through the path "HP" and poppet (D), the pressure difference increases because of throttling by the poppet (D), circular gap of piston (C), and orifice. The poppet (D) is opened by the differential pressure and oil flows directly through path "LP".

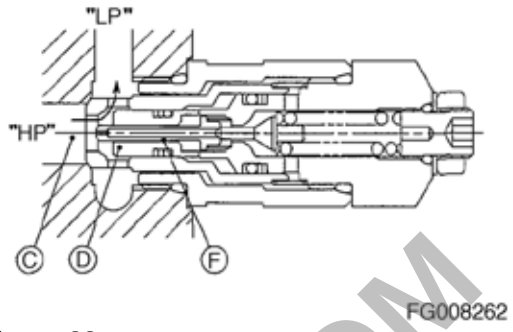


Figure 32

Suction operation

1. This relief valve is equipped with an antivoid unit in the cylinder port "HP", which supplies oil when cavitation occurs. In the low-pressure side "LP", when the pressure in the cylinder port "HP" is low, the sleeve (K) is opened by the differential pressure generated by the areal difference between "A" and "B". Oil flows from the low-pressure side "LP" into the cylinder port "HP" to prevent cavitation.

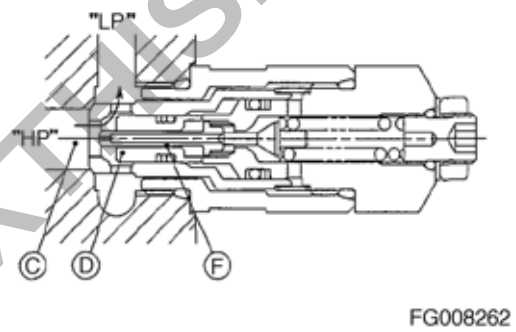


Figure 33

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ELECTRICAL SUPPLY SYSTEM

The electric power circuit supplies electric current to each electric component. It consists of a battery, battery relay, starter switch, circuit breaker, fusible link and fuse box.

The negative terminal of the battery is grounded to the machine body.

Even when the starter switch (5) is in the "OFF" position, electric current is supplied to the following components through battery (1) → fusible link (3) → fuse box (6).

1. Terminal "5" of stereo.
2. Terminal "B" of starter switch.
3. Hour meter.
4. Engine controller.
5. Terminal "2" of fuel auto shutoff controller.
6. Terminal "6" of wiper motor.
7. Terminal "13" of wiper controller.
8. Terminal "CN7-5, CN7-6" of instrument panel controller.
9. Terminal "CN9-6" of air conditioner panel.
10. Cabin light
11. Terminal "11" of diesel heater timer.

When the starter switch (5) is in the "ON" or "START" positions, the current flows from the battery (1) → fusible link (3) → fuse box (6) → "B" terminal of starter switch (5) → "BR" terminal of starter switch (5) → "BR" terminal of battery relay (2) which activates the coil of the battery relay and the electric supply system is energized.

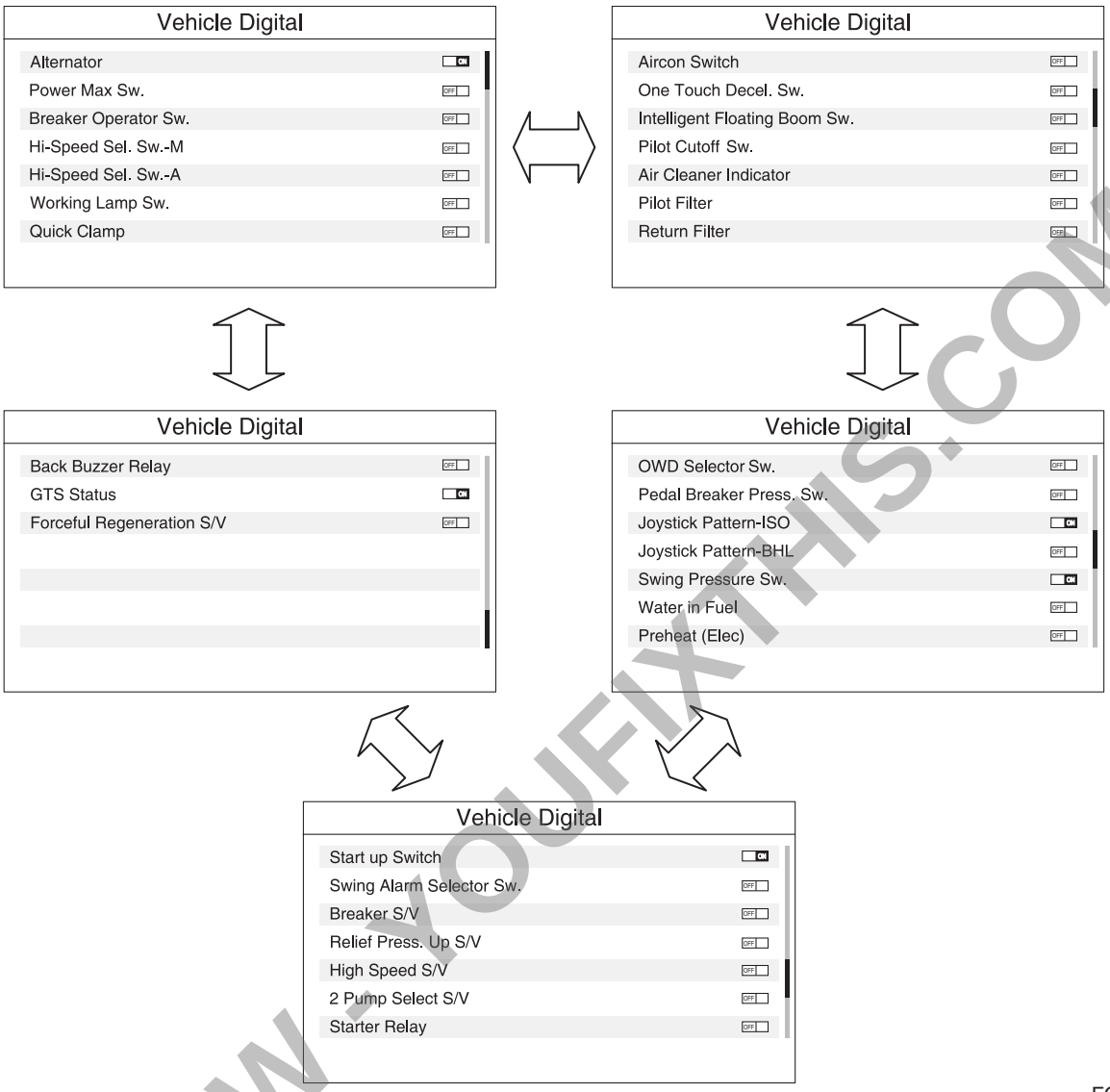
When the battery relay's contacts are connected, all electric devices can be operated.

While the engine is not running, the electric power for all electric devices are supplied by the battery. Once the engine is started the power is supplied from the alternator (7).

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Submenu Selections



FG025199

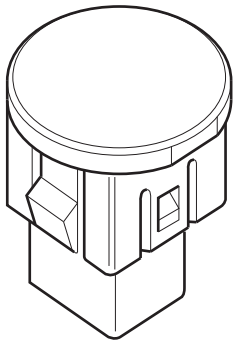
Figure 124

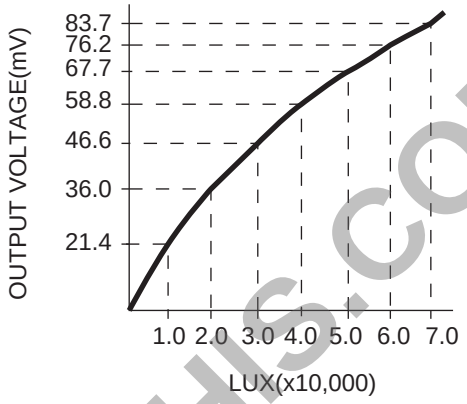
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Sun Sensor

Built beside the socket of spare power, it senses the quantity of the sun radiation to regulate discharge temperature and airflow as set by operator.



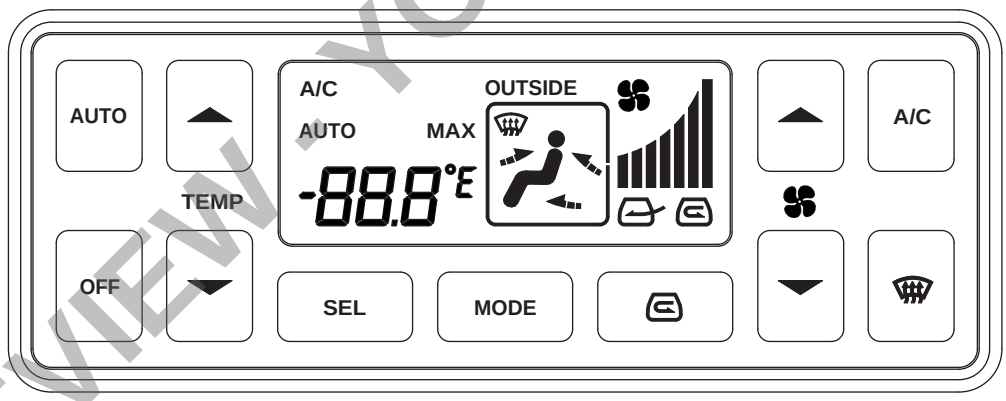


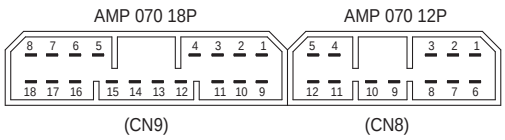
FG001062

Figure 189

Control Panel

Appearance and Terminal Arrangement





FG001063

Figure 190

Refer to "Air Conditioner and Heater" of operation manual.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 891 pages

The full manual includes:

- All 891 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Doosan DX160LC-3 Shop Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual