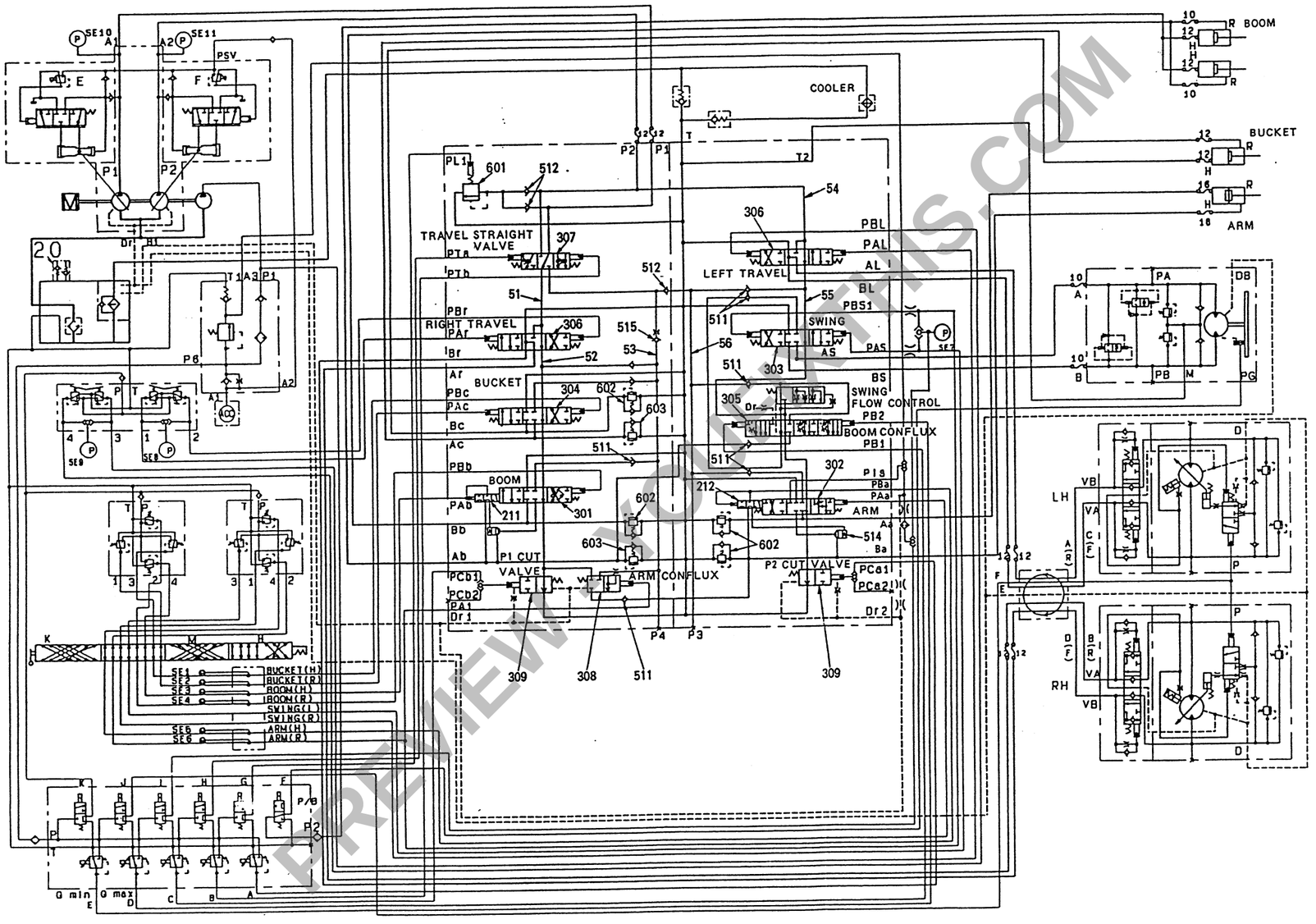
18. HYDRAULIC CIRCUIT DIAGRAM

1. SK200V



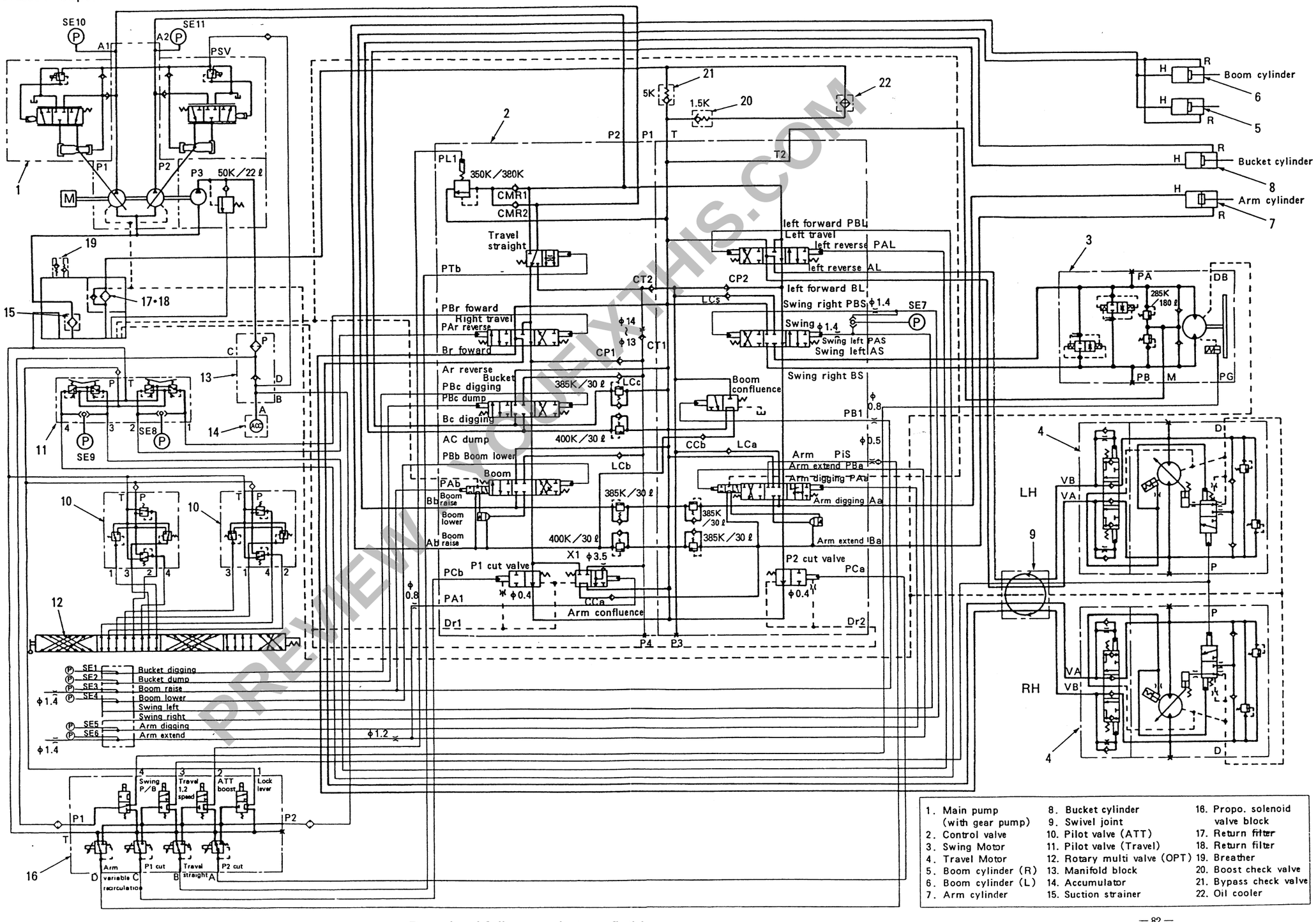
No.	NAME
51	MAIN CIRCUIT (P1 side)
52	BYPASS CIRCUIT (P1 side)
53	PARALLEL CIRCUIT (P1 side)
54	MAIN CIRCUIT (P2 side)
55	BYPASS CIRCUIT (P2 side)
56	PARALLEL CIRCUIT (P2 side)
211	LOCK VALVE SELECTOR A SUB
212	LOCK VALVE SELECTOR B SUB
301	BOOM SPOOL
302	ARM SPOOL
303	SWING SPOOL
304	BUCKET SPOOL
305	BOOM CONFLUX SPOOL
306	TRAVEL SPOOL
307	TRAVEL PRIORITY SPOOL
308	ARM CONFLUX SPOOL
309	NEUTRAL CUT VALVE
511	LOAD CHECK VALVE
512	POPPET
514	LOCK VALVE POPPET
515	POPPET
541	BALL
601	MAIN RELIEF VALVE
602	PORT RELIEF VALVE
603	PORT RELIEF VALVE
611	PISTON IN BOOM SPOOL

A : P2 CUT
B : TRAVEL STRAIGHT
C : P1 CUT
D : BOOM CONFLUX
E : SLOW SWING SPEED
F : SWING BRAKE
G : ATT. BOOST PRESSURE
H : TRAVEL DEFLECTION PREVENTION
I : FC MODE
J : 2-SPEED TRAVEL
K : LEVER LOCK

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2. SK200V Super



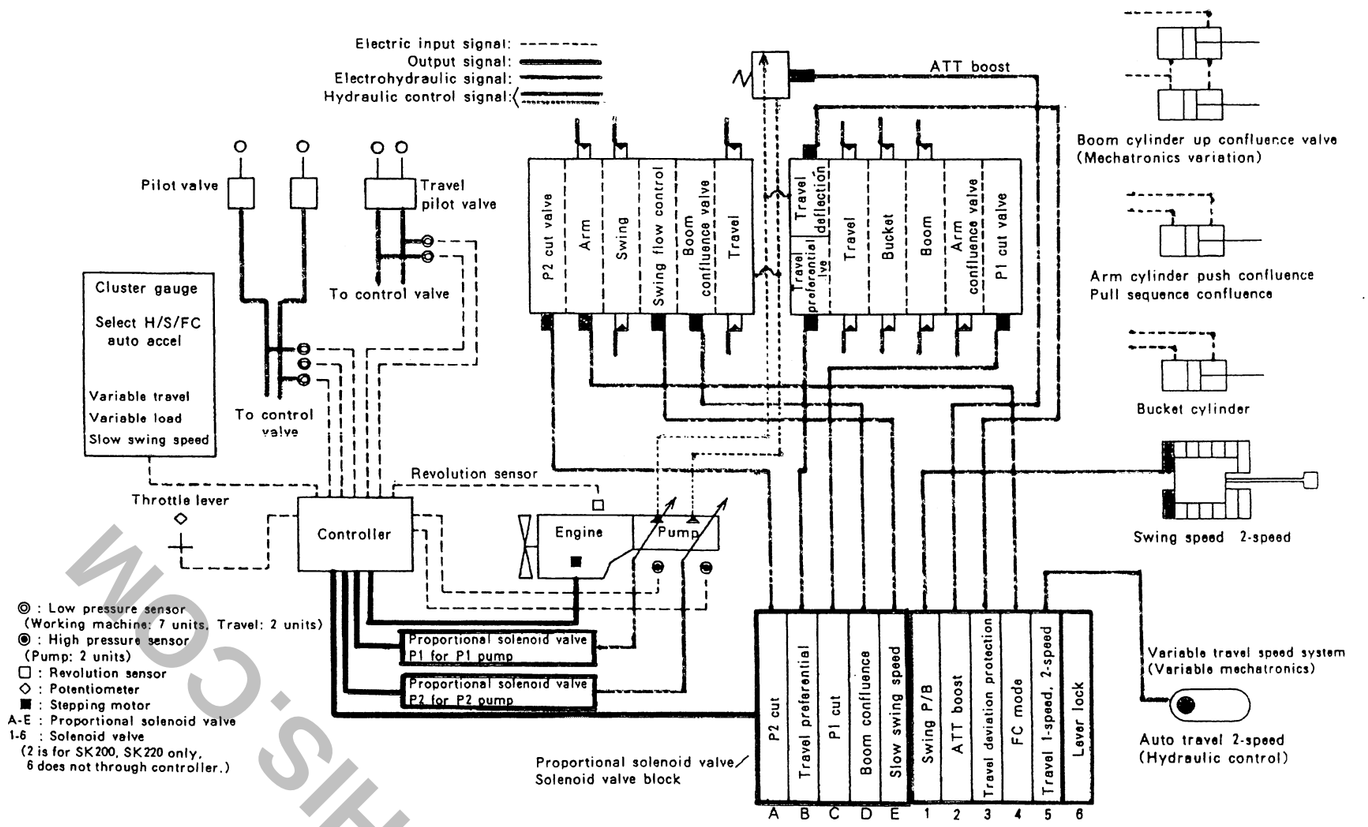
1. Main pump (with gear pump)
2. Control valve
3. Swing Motor
4. Travel Motor
5. Boom cylinder (R)
6. Boom cylinder (L)
7. Arm cylinder
8. Bucket cylinder
9. Swivel joint
10. Pilot valve (ATT)
11. Pilot valve (Travel)
12. Rotary multi valve (OPT)
13. Manifold block
14. Accumulator
15. Suction strainer
16. Propo. solenoid valve block
17. Return fitter
18. Return filter
19. Breather
20. Boost check valve
21. Bypass check valve
22. Oil cooler

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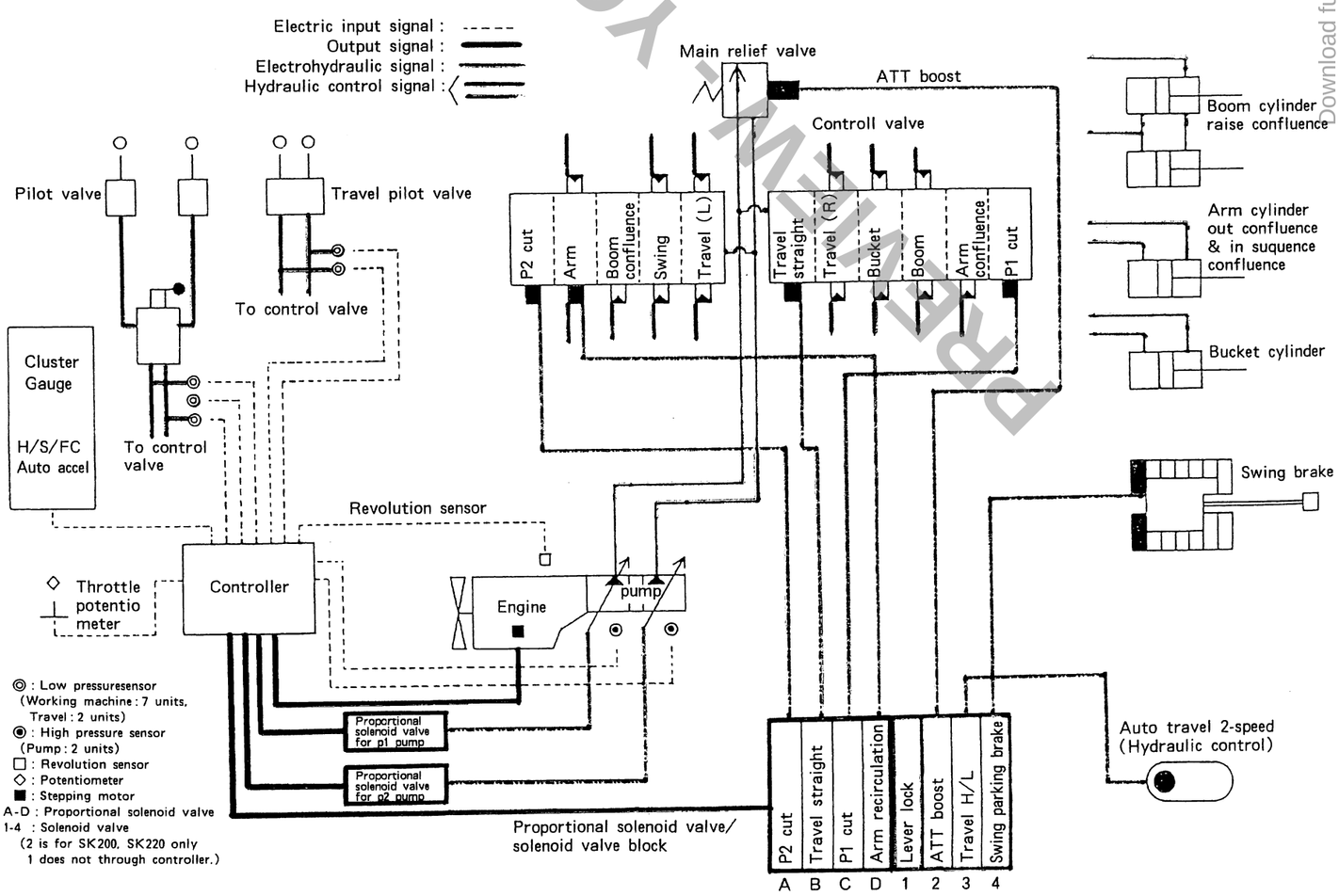
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6. OUTLINE OF ELECTRICAL HYDRAULIC SYSTEM
(ELECTRICAL ACTIVE CONTROL)

MARK V



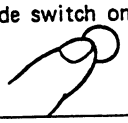
MARK V Super



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E/G Oil Feed Integrating Time Setting Method

Process	Operating Procedure	Indications on Multi Purpose Display
A	Press mode switch once. 	(Normal) AM 12 : 45 → 100Hr AFT E/G OIL CH
B	Press buzzer stop switch continuously on FC mode.	100Hr AFT E/G OIL CH → After 10 seconds → 100Hr AFT E/G OIL CH (Flicker)
C	Press time setting switch (M) holding the buzzer stop switch pressed.	100Hr AFT E/G OIL CH → Integrating time reduced → 95Hr AFT E/G OIL CH (Flicker)
D	Press time setting switch (H) holding the buzzer stop switch pressed.	100Hr AFT E/G OIL CH → Integrating time added → 105Hr AFT E/G OIL CH (Flicker)
E	In the D state, if the time setting switch "H" or "M" is not pressed for 3 seconds, the time setting is regarded as being completed, and the integrating time lamp lights up.	

Note:
When the buzzer stop switch is released after performing the Procedure B, or the mode selector switch is switched to the mode other than the FC mode, the time setting is stopped.

◎ Time setting



The time setting is available only when the clock is displayed.

"Hour" ..... Press the "H" side.
AM 10:29 → AM 11:29
"Minute" .. Press the "M" side.
PM 1:15 → PM 1:16

* When the service diagnosis is done, this switch is available to switch the screen on the multi purpose display.
Press "H" side. ... Screen paging is scrolled up.
Press "M" side. ... Screen paging is scrolled down.

(Reference)
When the multi purpose display "OK" and self-diagnosis are indicated, the warning buzzer will sound on the states shown below.
To stop the sounding, press the buzzer stop switch.
There are 3 types of sound as follows.

Blow cycle ◎ → Intermittent sound in 0.3 seconds, Sounding continues in 0.2 seconds stopping cycle.
Blow cycle ○ → Intermittent sound in 0.5 seconds, Sounding continues in 0.5 seconds stopping cycle.
Blow cycle ● → Sounding continues as the same way as the mark ○ for 5 seconds.

No.	Buzzer sounding item
1	◎ CPU (mechatro controller) failures
2	◎ Self-diagnosis NG (multi-purpose failures)
3	● Swing parking failure
4	◎ Preheat finish
5	◎ Engine oil pressure lowering
6	◎ Engine cooling water abnormal temperature
7	◎ Engine oil filter clogging
8	◎ Air cleaner clogging
9	○ Battery to be charged
10	○ Low fuel level
11	◎ Low hydraulic oil level
12	◎ Lack of radiator cooling water
13	◎ Low engine oil level
14	○ Engine oil to be changed
15	◎ Self-diagnosis function (Abnormal condition)
16	◎ Optional self-diagnosis

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4. SPECIFICATIONS AND PERFORMANCE

1. SK200V

SPEED AND GRADABILITY

ITEM \ MODEL	SK200V, SK200LCV
SWING SPEED	11rpm (SLOW SWING 4 rpm)
TRAVEL SPEED (HIGH/LOW)	1-SPEED 1-4km/h (2.5MPH) 2-SPEED 2-7km/h (4.3MPH)
GRADABILITY	35° (70%)

ENGINE

ITEM \ MODEL	SK200V, SK200LCV
MODEL	MITSUBISHI 6D31T
TYPE	4-CYCLE, WATER-COOLED, DIRECT INJECTION TYPE DIESEL WITH TURBO CHARGER
NUMBER OF CYLINDER-BORE × STROKE	6-100mm×105mm (6-3.9in×4.1in)
TOTAL DISPLACEMENT	4,948cc (302cuin)
RATED OUTPUT POWER/REVOLUTION	140ps/2,200rpm
MAXIMUM TORQUE/REVOLUTION	47kgf•m/1,700rpm

HYDRAULIC COMPONENTS

ITEM \ MODEL	SK200V, SK200LCV
HYDRAULIC PUMP	DOUBLE VARIABLE DISPLACEMENT PUMP + GEAR PUMP
HYDRAULIC MOTOR (SWING)	AXIAL PISTON MOTOR
HYDRAULIC MOTOR (TRAVEL)	AXIAL PISTON MOTOR
CONTROL VALVE	6-SECTION MULTIPLE CONTROL VALVE
CYLINDER (BOOM, ARM, BUCKET)	DOUBLE ACTING CYLINDERS
RETURN FILTER	FILTER PAPER WITH SAFETY VALVE
OIL COOLER	AIR-COOLED TYPE

WEIGHT

UNIT : kg(lbs)

ITEM \ MODEL	SK200V	SK200LCV
Fully equipped Weight	19,000 (41,887)	19,500 (42,990)
Upper frame machinery	8,420 (18,563)	←
Lower frame machinery 【with 600mm (23.6in) grouser shoe】	6,780 (14,947)	7,300 (16,226)
Attachment 【5.6m (18 ft-4 in) boom+2.94m (9 ft-7 in) arm + 0.7m³ (0.92 cuyd) bucket】	3,720 (8,201)	←

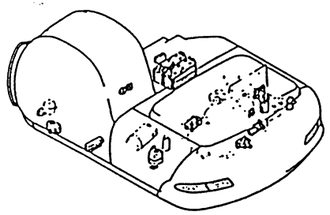
WORKINGMODE \ ENGINE	NO LOAD (rpm)	RATED SPEED (rpm)	RATED OUTPUT POWER (PS)
H	2,350±30	2,200	140
S	2,250±30	1,840	120
FC	1,600±30	1,440	94
AUTO-ACCEL	1,050±25	783	—

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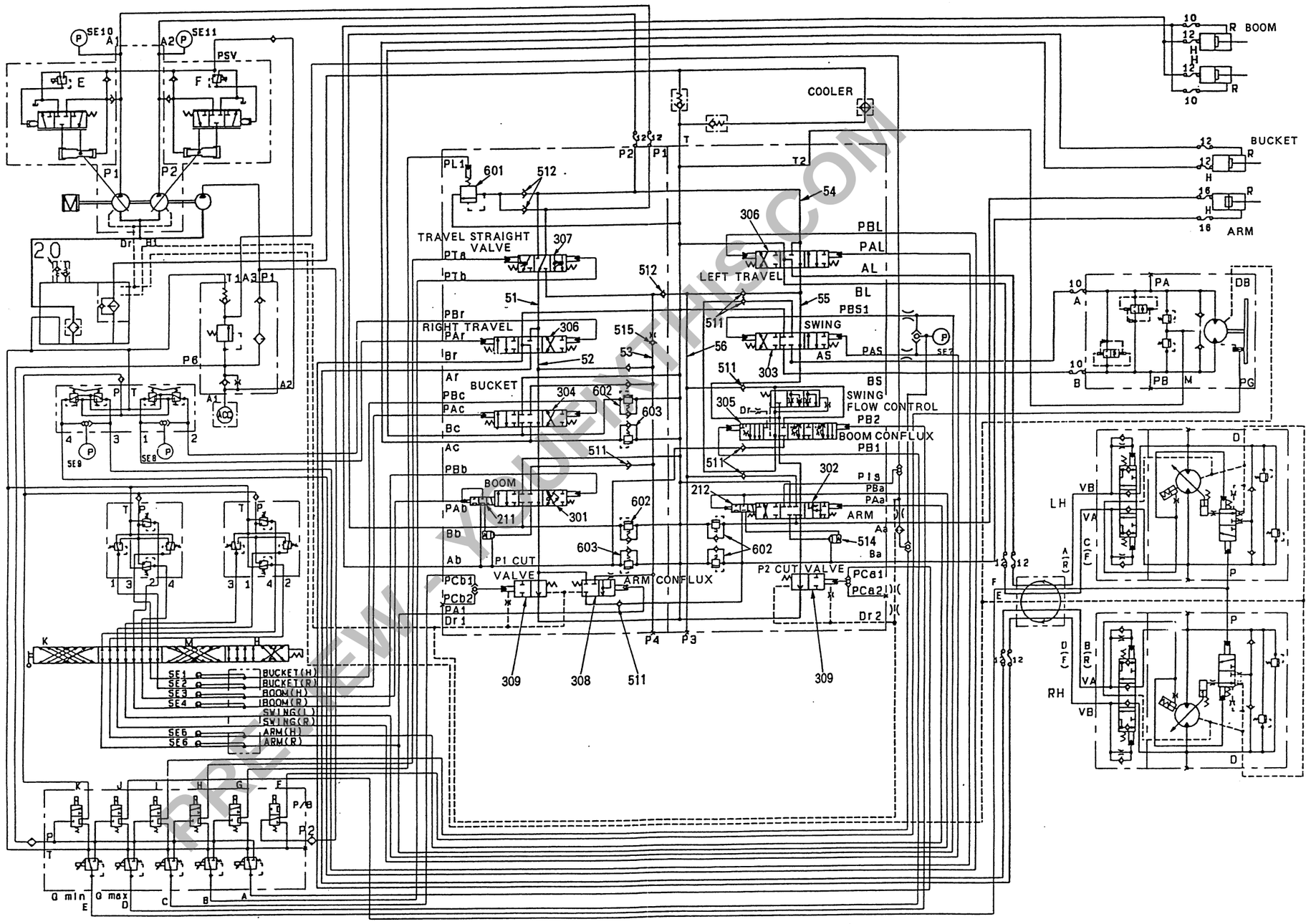


パイロット 部詳細
DETAIL PILOT

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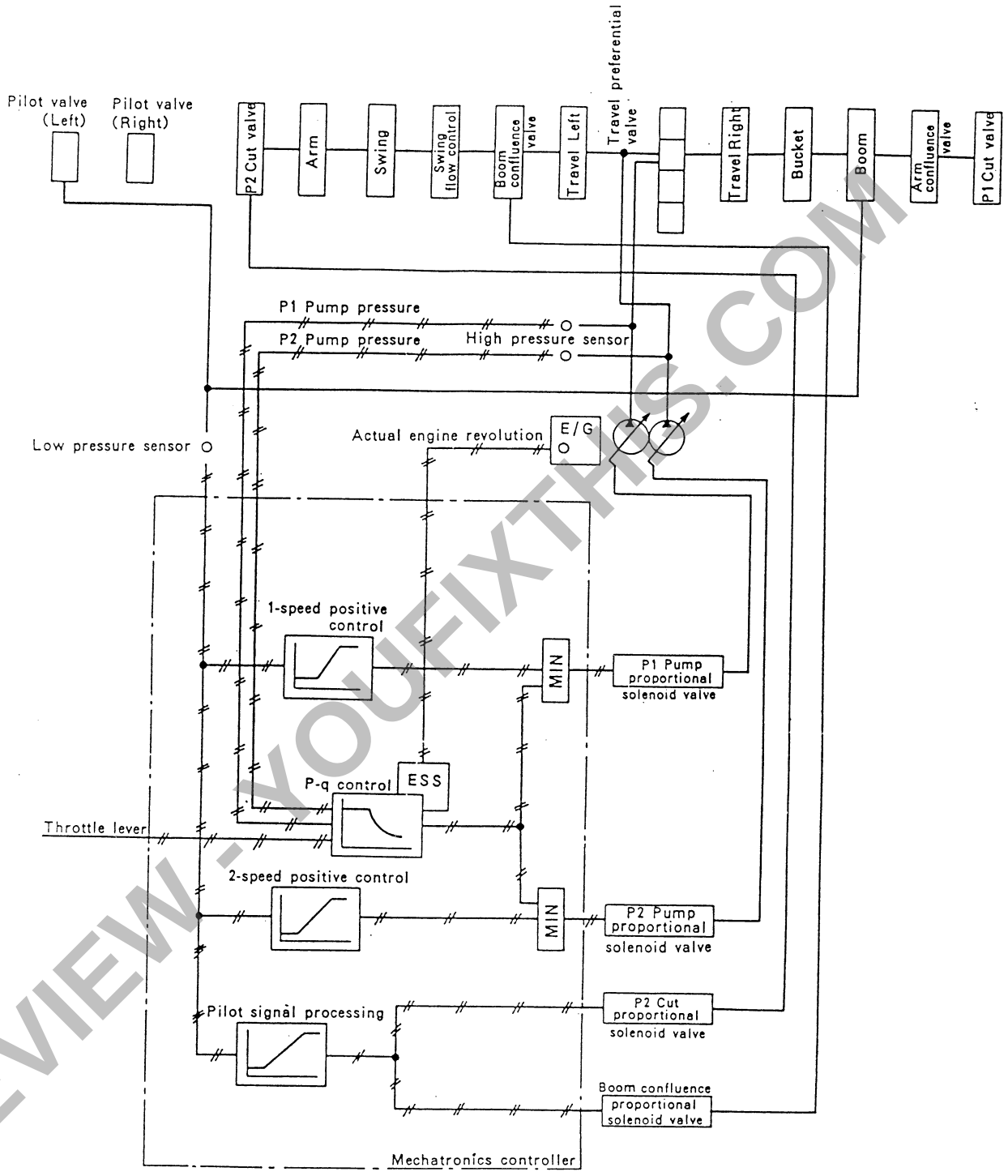
BOOM UP OPERATION



A : P2 CUT
B : TRAVEL STRAIGHT
C : P1 CUT
D : BOOM CONFLUX
E : SLOW SWING SPEED
F : SWING BRAKE
G : ATT. BOOST PRESSURE
H : TRAVEL DEFLECTION PREVENTION
I : FC MODE
J : 2-SPEED TRAVEL
K : LEVER LOCK

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5-7 FUSE BOX

■ Fuse Box (main)

This box protects the electrical equipment and prevents wiring from burning out.
Don't fail to replace the fuse with the equipment capacity.

⚠ WARNING

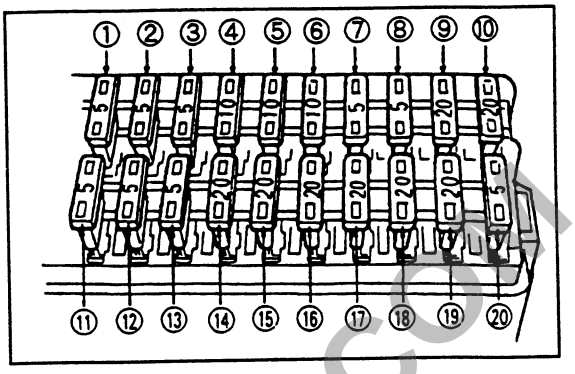
When replacing the fuse, be sure that the power is turned off and the starter switch is turned OFF.

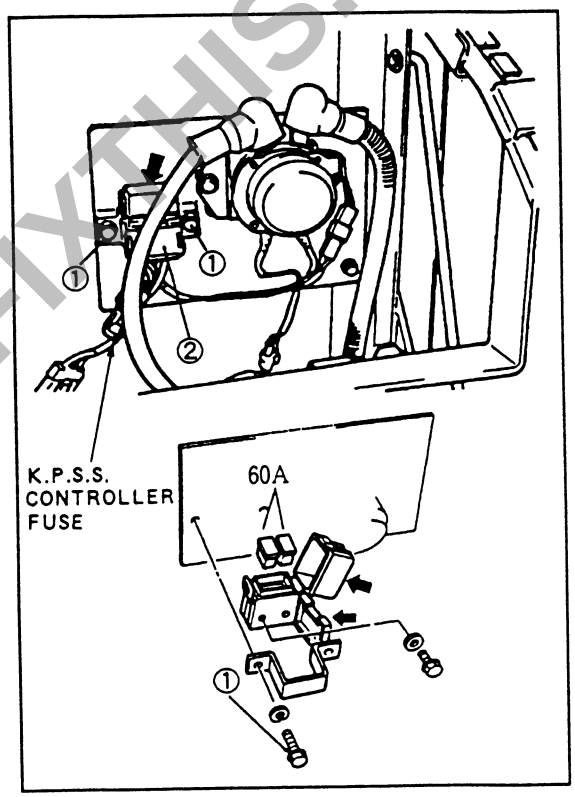
● Replacing procedure

1. To remove the fuse box cover, hold the cover both ends with both hands, and move it toward the operator's seat.
2. Remove the fuse safely holding the corners or with fingers, and replace it.
3. Attach the cover securely after replacing the fuse.

● Fuse the capacity and circuit name.

No.	Capacity	Circuit Name
1	5A	BACKUP (12V)
2	5A	TUNER
3	5A	SPARE (12V)
4	10A	CIGARETTE LIGHTER
5	10A	CONVERTER
6	10A	HORN
7	5A	AIR CONDITIONNER, CONVERTER (BACK UP)
8	5A	CLUSTER (BACK UP)
9	20A	POWER WINDOW
10	20A	STARTER SWITCH
11	5A	CONTROLLER (MECHATRO ADJUSTMENT)
12	5A	SWING FLASHER
13	5A	CONTROLLER (CLUSTER)
14	20A	WIPER, WASHER
15	20A	SOLENOID
16	20A	WORKING LAMP (BODY R.L, BOOM)
17	20A	REAR WORKING LAMP
18	20A	AIR CONDITIONNER HEATER (OPTION)
19	20A	SPARE (24V)
20	5A	GOVERNOR MOTOR





■ Fuse box (Sub)

When the power does not supply even though the starter switch turns on, the fuse is considered already blown. Open the battery cover to check and replace the fuse. (60A × 2 pcs)

● Replacing procedure

1. Open the battery cover with the starter key.
2. Loosen the cap screw ①.
3. Open the fuse box ② cover.
4. Loosen and pull out the cap screws (4 pcs) inside of the box with spanner (M10), and replace the fuse.
5. Attach the cover in the reverse procedure after replacing the fuse.

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2. SK200V Super

SPEED AND GRADABILITY

ITEM \ MODEL	SK200V, SK200LCV
SWING SPEED	11rpm
TRAVEL SPEED (HIGH/LOW)	7/4km/h (4.3/2.5mph)
GRADABILITY	35° (70%)

ENGINE

ITEM \ MODEL	SK200V, SK200LCV
MODEL	MITSUBISHI 6D34-TE1
TYPE	4-CYCLE, WATER-COOLED, DIRECT INJECTION TYPE DIESEL WITH AN EXHAUST TURBO CHARGER
NUMBER OF CYLINDER-BORE × STROKE	6-104mm × 115mm
TOTAL DISPLACEMENT	5,861cc (358cuin)
RATED OUTPUT POWER/REVOLUTION	140ps/2,150rpm
MAXIMUM TORQUE/REVOLUTION	50kgf•m/1,600rpm

HYDRAULIC COMPONENTS

ITEM \ MODEL	SK200V, SK200LCV
HYDRAULIC PUMP	DOUBLE VARIABLE DISPLACEMENT PUMP + GEAR PUMP
HYDRAULIC MOTOR (SWING)	AXIAL PISTON MOTOR
HYDRAULIC MOTOR (TRAVEL)	AXIAL PISTON MOTOR
CONTROL VALVE	6-SECTION MULTIPLE CONTROL VALVE
CYLINDER (BOOM, ARM, BUCKET)	DOUBLE ACTING CYLINDERS
RETURN FILTER	FILTER PAPER WITH SAFETY VALVE
OIL COOLER	AIR-COOLED TYPE

WEIGHT

UNIT : kg(lbs)

ITEM \ MODEL	SK200V	SK200LCV
Fully equipped Weight	19,000 (41,900)	19,500 (43,000)
Upper frame machinery	8,900 (19,600)	←
Lower frame machinery 【with 600mm (24 in) grouser shoe】	6,800 (15,000)	7,300 (16,100)
Attachment 【5.65m (18 ft-6 in) boom + 2.94m (9 ft-8 in) arm + 0.80m³ (1.05 cuyd) bucket】	3,300 (7,300)	←

WORKINGMODE \ ENGINE	NO LOAD (rpm)	RATED SPEED (rpm)	RATED OUTPUT POWER (PS)
H	2,350±$^{20}_{50}$	2,150	140
S	2,250±30	2,062	130
FC	1,800±30	1,600	100
AUTO-ACCEL	1,050±25	783	—

Note : E/G rpm is changed with according to the working mode.

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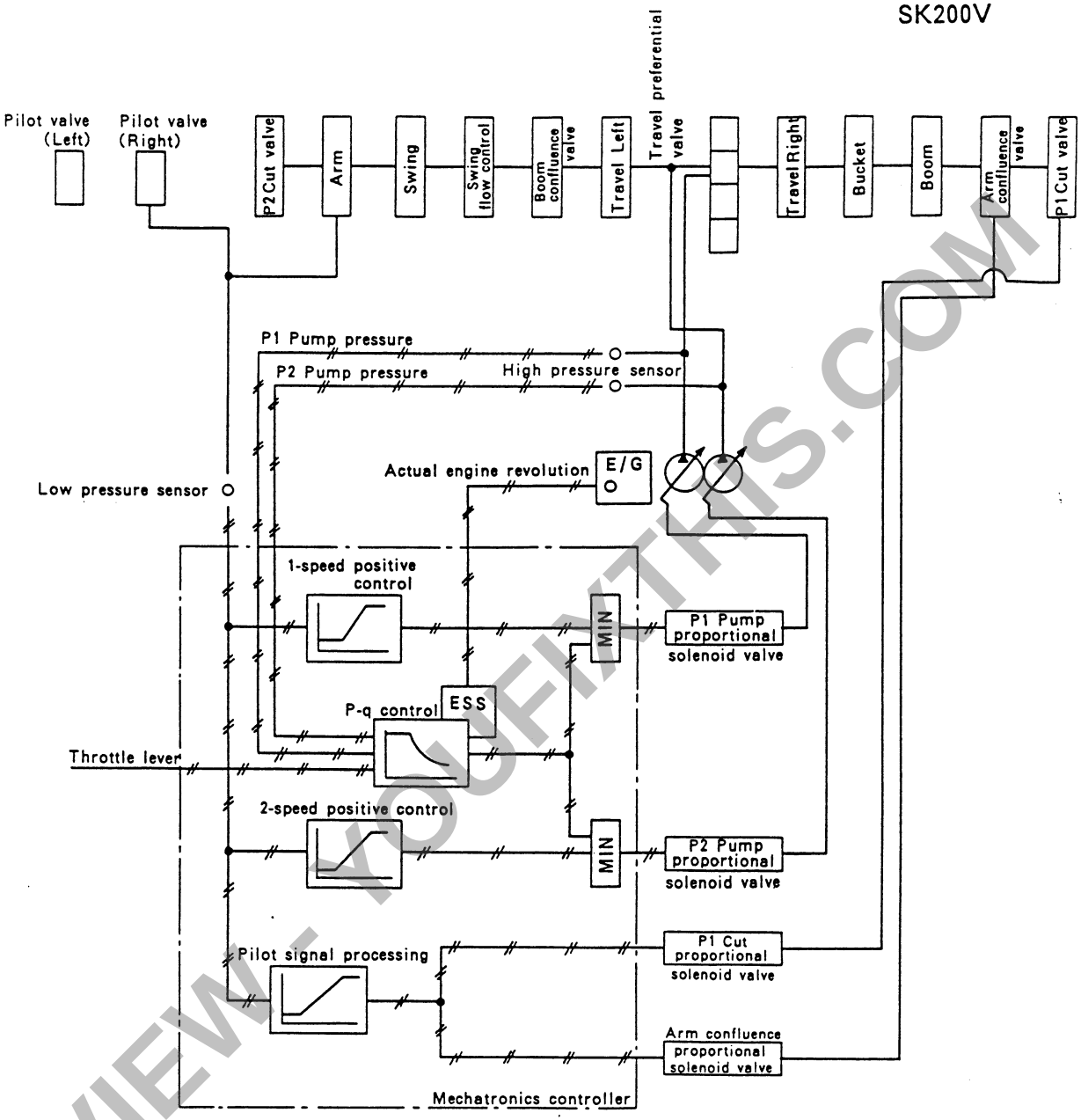
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L-3：ブーム作業灯 BOOM WORK LIGHT
L-5：作業灯(R) WORK LIGHT(R)
R-1：バッテリリレー BATTERY RELAY
SEE FIG 114
SE-7：旋回圧力センサ PRESS. SENDING SWING ②
SE-17：燃料センサ FUEL SENSOR ④
P-3 平角ﾒｽ STRAIGT TERMINAL LA104
SW-23：E/G 水温SW E/G THERMO SW.
SE-16：サーモセンディング THERMO SENSOR
バッテリー BATTERY
SW-26：作動油レベル HYD OIL LEVEL 1PAF CN-303F
P-4：グロープラグ GLOW PLUG P-4 LA304
SW-20：E/G 油圧 E/G OIL PRESS. T-1 平角ﾒｽ STRAIGT TERMINAL
SW-21：E/G オイルフィルタ E/G OIL FILTER T-2 平角ﾒｽ STRAIGT TERMINAL
ヒータ HEATER P-5 BA506
SE-15：回転センサ ROTATING SENSOR
R-3：グローリレー GLOW RELAY
SE-10：圧力センサ ポンプ P1 PRESS. SENDING PUMP P1 SEE FIG 082
PSV-P1 比例弁 P1 PROPORTIONAL S.V.
SE-11：圧力センサ ポンプ P2 PRESS. SENDING PUMP P2 SEE FIG 082
PSV-P2 比例弁 P2 PROPORTIONAL S.V.
CAP:YAZAKI 7834-1270
グロー リレー 部詳細
DETAIL GLOW RELAY
L-2：フラッシャ(R) FLASHER(R) CN-311F 3PAF-HV
CN-312F 2PAF-HV
L-7：後方作業灯(R) WORK BACK LIGHT(R)
CN-307F 12PAF-MK II
CN-308F 8PAF-MK II
CN-307M 12PAM-MK II
CN-308M 8PAM-MK II
M-4：スタータモータ STARTER MOTOR P-11 BA510
R-2：スタータリレー STARTER RELAY CN-306F 2PAF-MVP
ホーン HORN
1PAF CN-304F
1PAF CN-305F
CN-308M 2PAM-58Y
2PAM-090 CN-307M
2PAF-080 CN-306F
2PAF-85 CN-102F
SW-22：エアフィルタ AIR FILTER
CA104 CB104
オルタネータ ALTERNATOR
1PAF CN-302F
1PAF CN-303F
SEE FIG 114
SE-1：バケット掘削 BUCKET DIGGING ⑤
SE-2：バケットダンプ BUCKET DUMP ⑥
SE-3：ブーム 上 BOOM LIFTING ⑦
SE-4：ブーム 下 BOOM LOWERING ⑧
SE-5：アーム 引 ARM PULLING ⑨
SE-6：アーム 押 ARM PUSHING ⑩
M-1：ガバナモータ GOVERNOR MOTOR ①
SW-25：E/G オイルレベル E/G OIL LEVEL CN-102F MH052356
A/C クラッチ A/C CLUTCH CB104 F-2
SW-24：E/G 冷却水量 E/G COOLING LEVEL 3PAF
レシーバドライヤ RECEIVER DRIER 2PAF-090(黒) CN-304F
L-6：後方作業灯(L) WORK BACK LIGHT(L) CN-306F 2PAF-HV
L-1：旋回フラッシャ(L) SWING FLASHER(L) CN-305F 3PAF-HV
3PAF-HW CN-507F
3PAM-HW 結合納入 SUPPLY WITH
SE-12：P1側OPT：(ニブラ & ブレーカ) (NIBBLER & BREAKER)
3PAF-HW CN-508F
3PAM-HW 結合納入 SUPPLY WITH
SE-13：P2側OPT：(ニブラ) (NIBBLER)
CN-303F 1PAF
2PAF-58X CN-304F
P-2 LA308
CAP:YAZAKI 7834-1280
P-1 LA306
オルタネータ部詳細
DETAIL ALTERNATOR

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