TB138FR

Compact Excavator

BOOK No. CG5E001

WORKSHOP MANUAL

Serial No. 13810003~

TAKEUCHI

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

I . GENERAL
II . SPECIFICATIONS
III. MACHINE CONFIGURATION
IV. HYDRAULIC UNITS
V . TROUBLESHOOTING
VI. ENGINE

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SAFETY PRECAUTIONS

SAFETY ALERT SYMBOL

This symbol means Attention! Be Alert! Your Safety Is Involved.
The message that follows the symbol contains important information about safety.
Read and understand the message to avoid personal injury or death.

■ SIGNAL WORDS

Safety messages appearing in this manual and on machine decals are identified by the words "DANGER", "WARNING" and "CAUTION". These signal words mean the following:

⚠ DANGER	⚠ WARNING	⚠ CAUTION
The word "DANGER" indicates an imminently hazardous situation which, if not avoided, can result in serious injury or death.	The word "WARNING" indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.	The word "CAUTION" indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

IMPORTANT: The word "IMPORTANT" is used to alert against operators and maintenance personnel about situations which can result in possible damage to the machine and its components.

This manual is intended for trained and qualified personnel only. Warnings or cautions described in this manual do not necessarily cover all safety measures. For maintenance work, each person must take adequate safety precautions against possible hazards present in the respective working environment.

Observe all safety rules

- Operation, inspection and maintenance of this machine must be performed only by a trained and qualified person.
- All rules, regulations, precautions and safety procedures must be understood and followed when performing operation, inspection and maintenance of this machine.
- Do not perform any operation, inspection and maintenance of this machine when under the adverse influence of alcohol, drugs, medication, fatigue, or insufficient sleep.


E3A040

Wear appropriate clothing and personal protective equipment

- Do not wear loose clothing or any accessory that can catch on controls or in moving parts.
- Do not wear oily or fuel stained clothing that can catch fire.
- Wear a hard hat, safety shoes, safety glasses, filter mask, heavy gloves, ear protection and other protective equipment as required by job conditions. Wear required appropriate equipment such as safety glasses and filter mask when using grinders, hammers or compressed air, as metal fragments or other objects can fly and cause serious injury.
- Use hearing protection when operating the machine. Loud prolonged noise can cause hearing impairments, even the total loss of hearing.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SPECIFICATIONS TABLES

SPECIFICATIONS

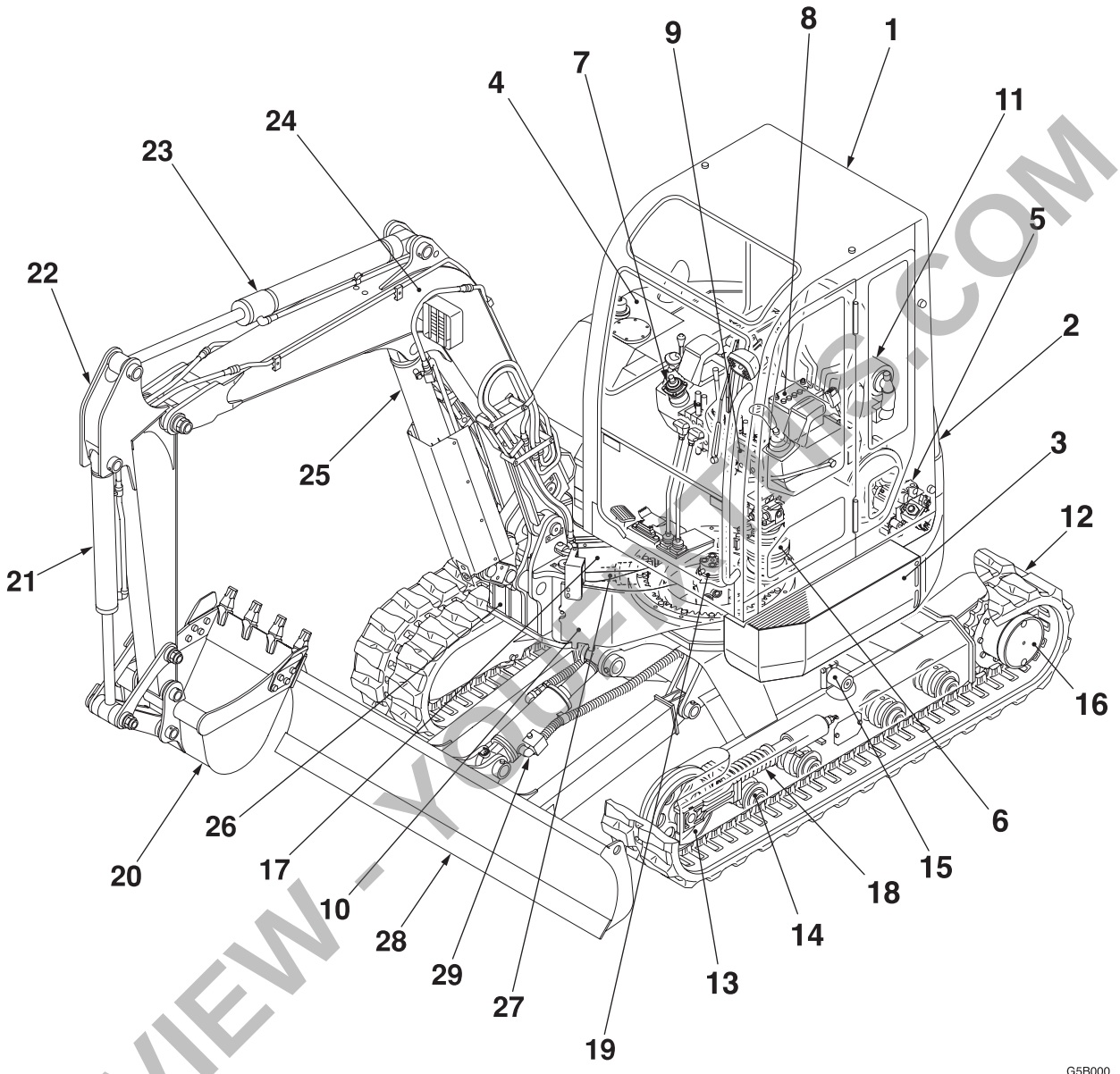
Serial Number			13810003~	
Machine Type			Canopy	Cab
Machine Mass (not including operator)				
Rubber Crawler		kg	3780 (3790*)	3860 (3870*)
Steel Crawler		kg	3880 (3890*)	3960 (3970*)
Engine Rated Output		kW/min^{-1}	20.5/2300	←
Bucket Capacity (Standard Bucket)				
Rated Capacity		m^3	0.105	←
Struck Capacity		m^3	0.078	←
Performance				
Slew Speed		min^{-1}	9.5	←
Travel Speed:	Rubber Crawler 1st/2nd	km/h	2.5/4.7	←
	Steal Crawler 1st/2nd	km/h	2.3/4.5	←
Gradeability		% (degree)	58 (30)	←
Ground Pressure:	Rubber Crawler	kPa	29.8 (29.9*)	30.4 (30.5*)
	Steel Crawler	kPa	31.4 (31.5*)	32.1 (32.2*)
Noise Level:	Sound-power	dB (A)	L_{WA}95	←
	Sound-pressure level	dB (A)	L_{PA}75	←
Auxiliary Hydraulic Flow Rate		L/min	59	
Dimensions				
Overall Length in Transport Position		mm	4715	4770
Overall Width		mm	1740	←
Overall Height		mm	2565	2555
Dimensions of Base Machine				
Tail Swing Radius		mm	955	←
Distance of Rearmost Upper Structure from Axis of Rotation		mm	955	←
Clearance Height under Upper Structure		mm	605	←
Crawler Base		mm	1655	←
Crawler:	Overall Length	mm	2110	←
	Overall Width	mm	1740	←
Crawler Shoe Width		mm	350	←
Minimum Ground Clearance		mm	295	←

*: Long Arm

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

NAMES OF COMPONENTS



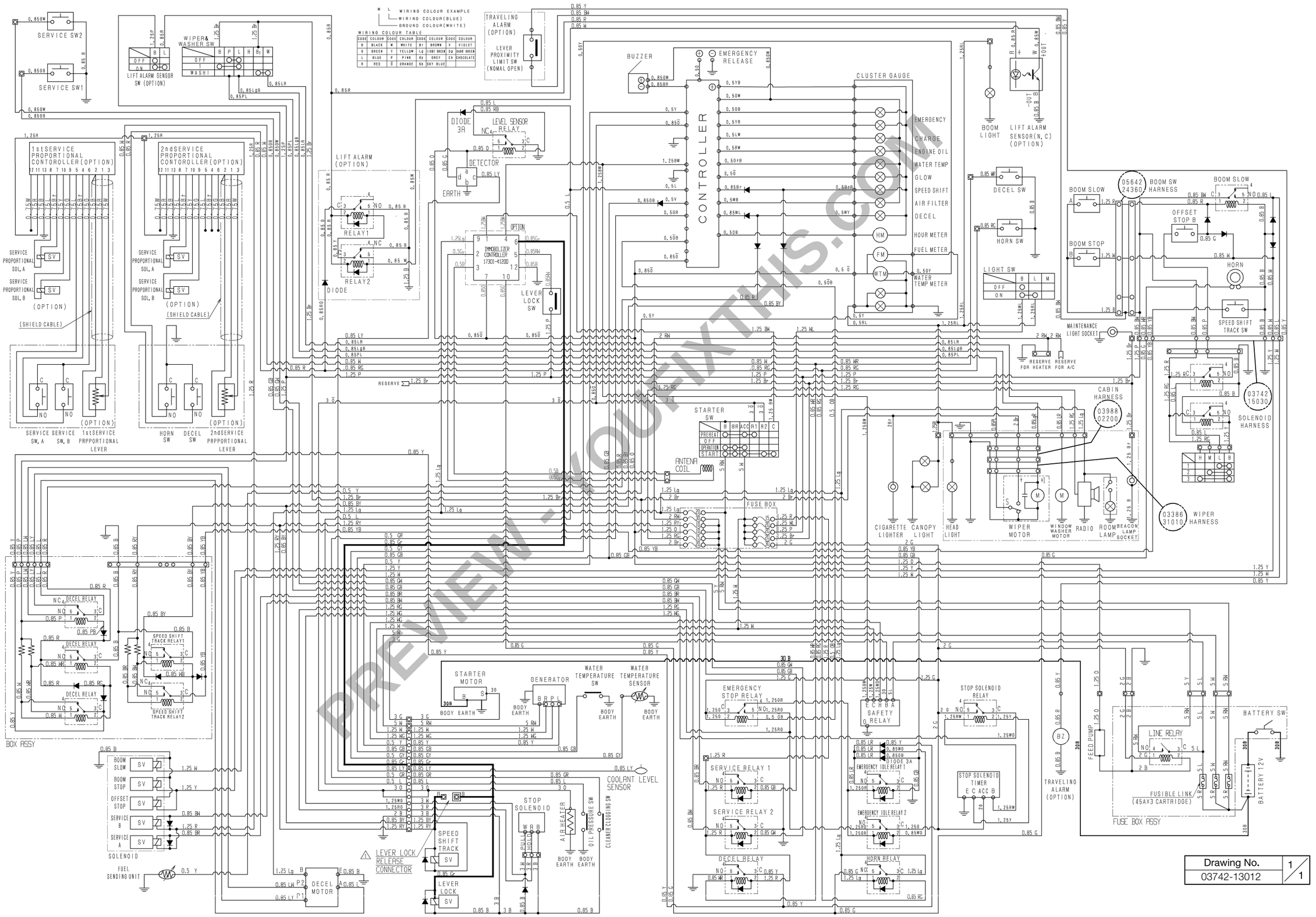
1. Cab
2. Engine hood
3. Fuel tank
4. Hydraulic tank
5. Hydraulic pump
6. Slew motor
7. Pilot valve
8. Battery
9. Control valve
10. Left link arm
11. Engine
12. Crawler belt
13. Idler
14. Track roller
15. Carrier roller
16. Travel motor
17. Right link arm
18. Track adjuster
19. Swivel joint
20. Bucket
21. Bucket cylinder
22. Arm
23. Arm cylinder
24. Boom
25. Boom cylinder
26. Boom bracket
27. Offset cylinder
28. Dozer blade
29. Dozer blade cylinder

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ELECTRICAL SYSTEM

ELECTRICAL SYSTEMELECTRICAL WIRING DIAGRAM

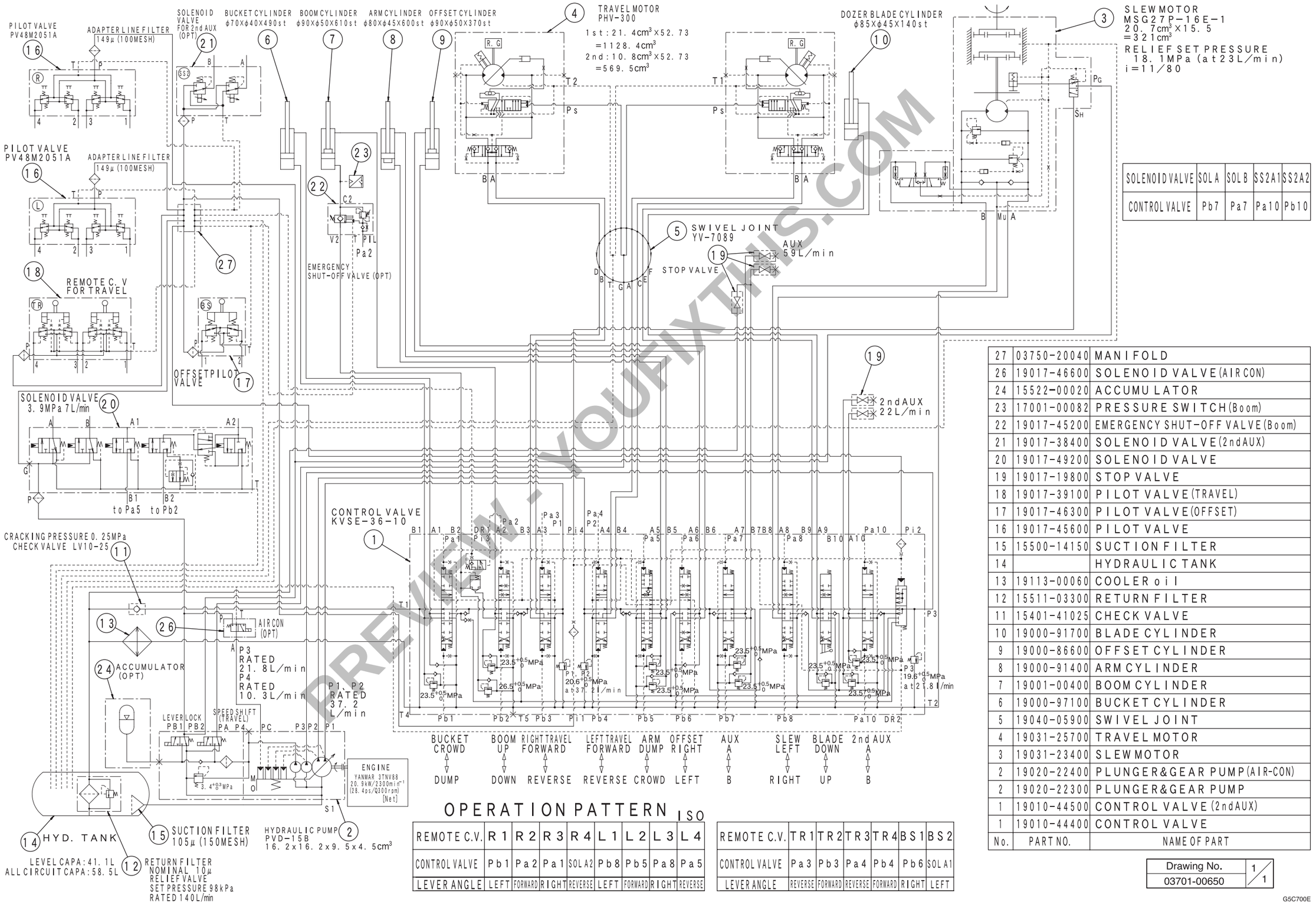


PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

HYDRAULIC SYSTEM

HYDRAULIC CIRCUIT DIAGRAM



SOLENOID VALVE	SOL A	SOL B	SS2A1	SS2A2
CONTROL VALVE	Pb7	Pa7	Pa10	Pb10

No.	PART NO.	NAME OF PART
27	03750-20040	MANIFOLD
26	19017-46600	SOLENOID VALVE (AIR CON)
24	15522-00020	ACCUMULATOR
23	17001-00082	PRESSURE SWITCH (Boom)
22	19017-45200	EMERGENCY SHUT-OFF VALVE (Boom)
21	19017-38400	SOLENOID VALVE (2nd AUX)
20	19017-49200	SOLENOID VALVE
19	19017-19800	STOP VALVE
18	19017-39100	PILOT VALVE (TRAVEL)
17	19017-46300	PILOT VALVE (OFFSET)
16	19017-45600	PILOT VALVE
15	15500-14150	SUCTION FILTER
14		HYDRAULIC TANK
13	19113-00060	COOLER oil
12	15511-03300	RETURN FILTER
11	15401-41025	CHECK VALVE
10	19000-91700	BLADE CYLINDER
9	19000-86600	OFFSET CYLINDER
8	19000-91400	ARM CYLINDER
7	19001-00400	BOOM CYLINDER
6	19000-97100	BUCKET CYLINDER
5	19040-05900	SWIVEL JOINT
4	19031-25700	TRAVEL MOTOR
3	19031-23400	SLEW MOTOR
2	19020-22400	PLUNGER&GEAR PUMP (AIR-CON)
2	19020-22300	PLUNGER&GEAR PUMP
1	19010-44500	CONTROL VALVE (2nd AUX)
1	19010-44400	CONTROL VALVE

OPERATION PATTERN ISO

REMOTE C.V.	R1	R2	R3	R4	L1	L2	L3	L4
CONTROL VALVE	Pb1	Pa2	Pa1	SOL A2	Pb8	Pb5	Pa8	Pa5
LEVER ANGLE	LEFT	FORWARD	RIGHT	REVERSE	LEFT	FORWARD	RIGHT	REVERSE

REMOTE C.V.	TR1	TR2	TR3	TR4	BS1	BS2
CONTROL VALVE	Pa3	Pb3	Pa4	Pb4	Pb6	SOL A1
LEVER ANGLE	REVERSE	FORWARD	REVERSE	FORWARD	RIGHT	LEFT

Drawing No.	1/1
03701-00650	

G5C700E

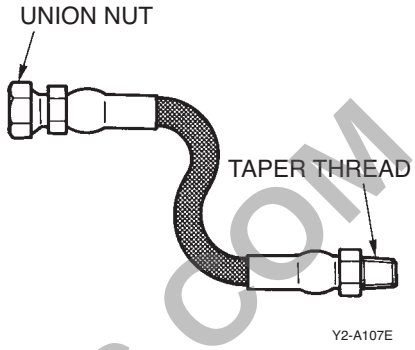
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TIGHTENING TORQUES

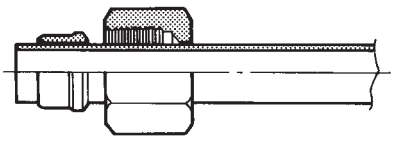
Hydraulic Hoses

Hose Fitting Size	Torque			
	Union Nut (G)		Taper Thread (R)	
	N·m	ft-lb	N·m	ft-lb
1/8	9.8 $^{+4.9}_{0}$	7.3 $^{+3.5}_{0}$	11.8 ±1.2	8.7 ±0.8
1/4	24.5 $^{+4.9}_{0}$	18.1 $^{+3.5}_{0}$	29.4 ±2.9	21.7 ±2.1
3/8	49 $^{+4.9}_{0}$	36.2 $^{+3.5}_{0}$	53.9 ±5.4	39.8 ±3.9
1/2	58.8 $^{+4.9}_{0}$	43.4 $^{+3.5}_{0}$	88.3 ±8.8	65.1 ±6.4
3/4	117.7 $^{+4.9}_{0}$	86.8 $^{+3.5}_{0}$	147.1 ±14.7	108.5 ±10.7
1	137.3 $^{+4.9}_{0}$	101.3 $^{+3.5}_{0}$	196.1 ±19.6	144.7 ±14.3



Bite Type Pipe Fitting for Steel Pipe

Pipe Outer Diameter (mm)	Torque	
	N·m	ft-lb
8	34.3 ±4.9	25.3 ±3.5
10	41.7 ±2.5	30.7 ±1.7
12	58.8 ±4.9	43.4 ±3.5
15	88.3 ±4.9	65.1 ±3.5
16	93.2 ±4.9	68.7 ±3.5
18	132.4 ±4.9	97.6 ±3.5
22	205.9 ±9.8	151.8 ±7.2
27.2	245.2 ±9.8	181.0 ±7.2
28	313.8 ±19.6	231.4 ±14.3
32	313.8 ±19.6	231.4 ±14.3
35	411.9 ±19.6	303.7 ±14.3



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

CONTENTS

OVERALL MACHINE
No operations can be done. 4
All operations can be done, but there is no power. 5
The boom, bucket, slew and arm do not move at all, or the speed is low. 7
The boom cannot be raised or the left offset cannot be operated. The interference prevention system does not operate normally. 9
MACHINE TRAVEL
Right or left travel is impossible. 13
Speed drops in the left or right travel, causing the machine to travel in a curve. 15
Machine won't accelerate during travel. 17
SLEWING
No slewing can be done. 20
Right or left slewing cannot be done. 22
Slewing speed is low, or there is no power. 23
The machine slews, but overrun when slewing stops is great, or it cannot be stopped. 25
BOOM
The boom cylinder doesn't move. 27
Boom cylinder operation is slow, or there is no power. 29
The amount of boom natural drop is great. 30
ARM
The arm cylinder doesn't move. 31
Arm cylinder operation is slow, or there is no power. 33
The amount of arm natural drop is great. 35
BUCKET
The bucket cylinder doesn't move, or there is no power. 36
The amount of bucket natural drop is great. 38
OFFSET
The offset cylinder doesn't move. 39
DOZER BLADE
The dozer blade cylinder doesn't move, or there is no power. 41
The amount of dozer blade natural drop is great or the dozer blade won't hold the machine up. 43
AUXILIARY HYDRAULICS
The proportional control is impossible. 45

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

DISASSEMBLY AND ASSEMBLY

Removing the Engine

1. Disconnect the battery ground cable (1) from the battery.

2. Remove the engine hood and side cover.
   ☞ "Removing the Covers"

3. Remove the counterweight.
   ☞ "Removing the Upper Frame"

4. Tilt up the floor frame.

5. Remove the radiator and oil cooler.
   ☞ "Removing the Radiator and Oil Cooler"

6. Disconnect the coolant drain hose (3).

7. <Air Conditioner>
   Remove the compressor (4).
   - Do not loosen the hose to the conditioner, or the refrigerant gas may leak.

   a. Loosen the nut (6) of the idle pulley (5).
   b. Loosen the double-nut (7) and bolt (8) to release the V-belt (9) tension.
      - When re-assembling, press the midpoint between the compressor (4) and the idle pulley (5) with the force of 98 N, and adjust the bolt (8) to produce a slack of approximately 8 mm.
   c. Remove the installation bolts (10) and the cap screw (21) from the compressor (4), and detach the compressor (4) from the engine.
      Bolt: 22.5 N·m
      Cap Screw: 19.6 N·m
      • Applying thread lock.

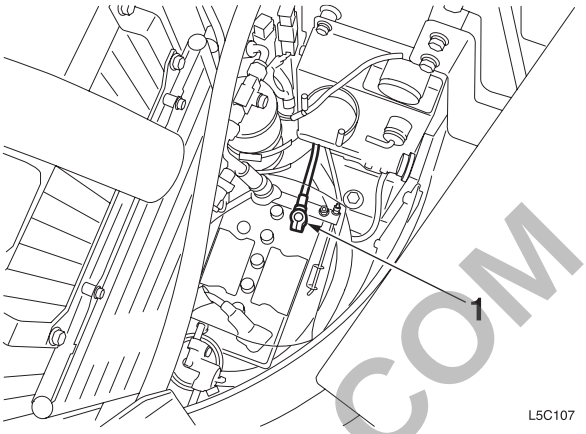
8. Disconnect the fuel hoses (11) and (12) from the engine.

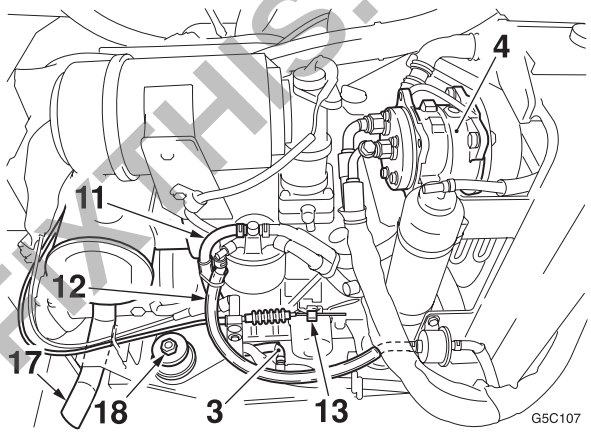
9. Remove the hydraulic pump.
   ☞ "Removing the Hydraulic Pump"

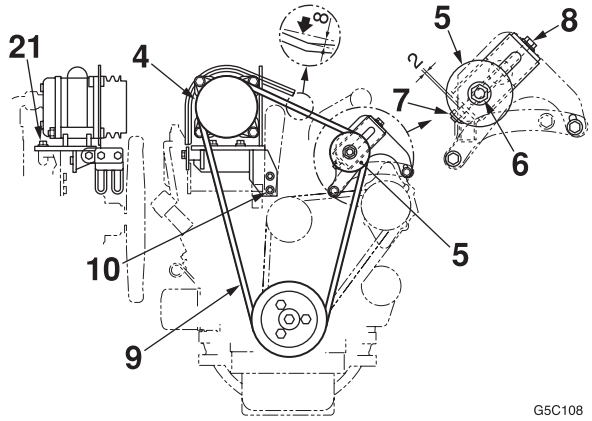
10. Disconnect the accelerator wire (13) from the engine.

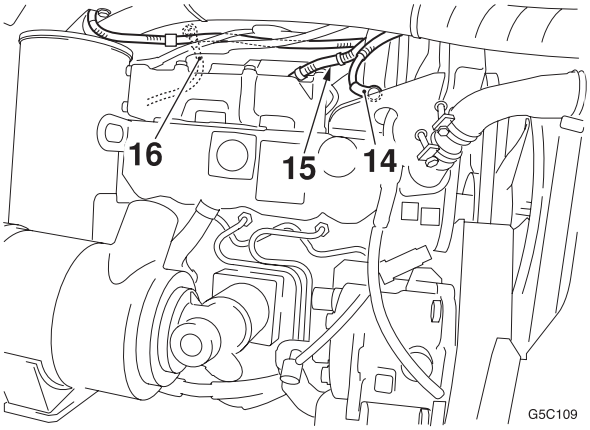
11. Disconnect the battery cable (14) and all the connections on the engine side of the electric wirings (15).
    - Attach identification labels to individual wirings for correct reassembling.
    - Disconnect the wirings from the clamps and the bands.

12. Disconnect the engine ground cable (16).







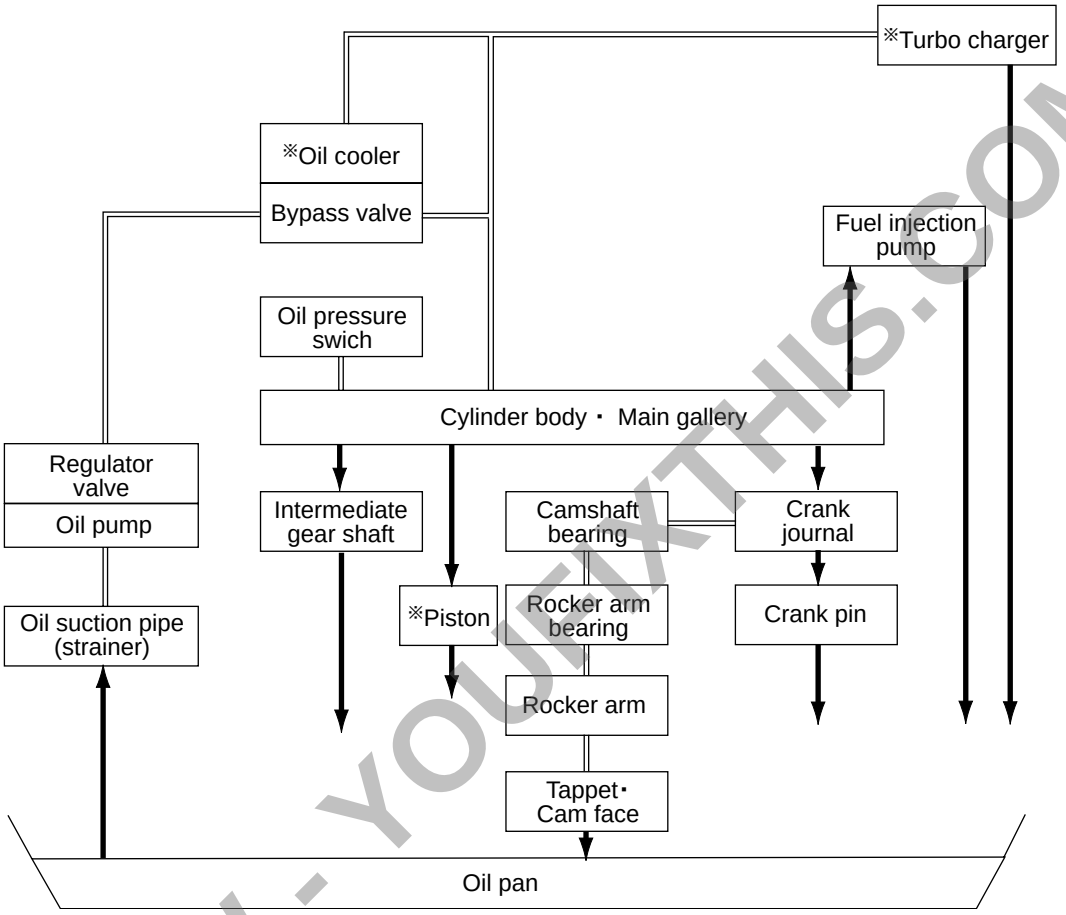


PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

5. Lubrication system

5.1 Lubrication system diagram



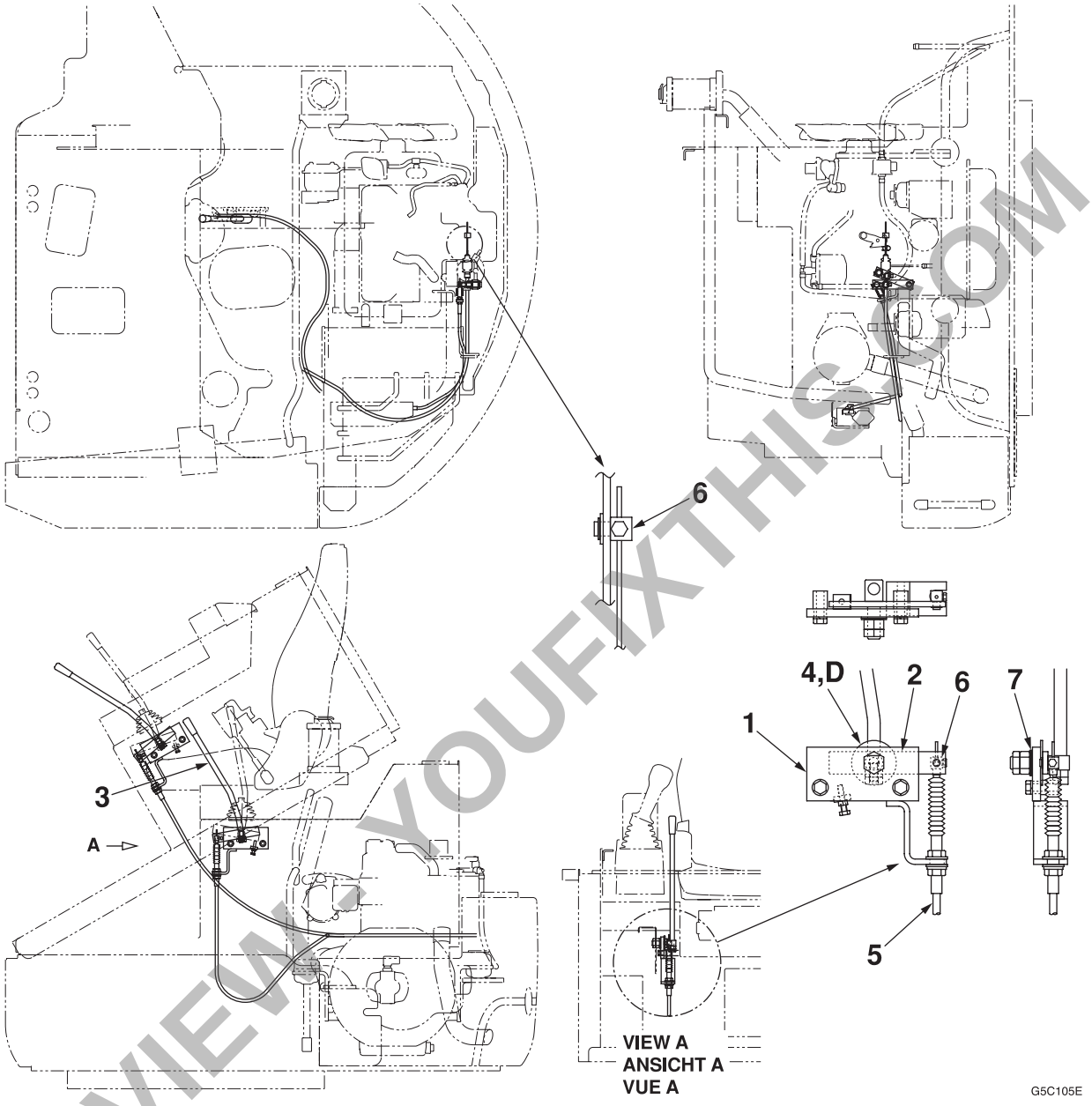
Note: It varies in the specifications of each model whether Oil cooler, Piston and Turbo charger of the * mark are attached.

PREVIEW - YOUFIXTHIS.COM

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Engine Control



D: Aupply molybdenum disulfide grease.

1. Plate
2. Lever
3. Shaft
4. Washer
5. Accelerator Wire
6. Wire Stopper
7. Conical Washer

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Inspection and Maintenance-without gauges

Click on any of these subject headings to go directly to the page

- **Discussion of Inspection & Maintenance Survey Results**
- **Visual Inspection - System Off**
- **Electrical System Inspection**
- **Performance Inspection - Engine Running**
- **Heater System Inspection**
- **Preventive Maintenance Worksheet**
- **Chapter Review**

PREVIEW: YOUFIXTHIS.COM

Discussion of Inspection & Maintenance Survey Results

There are three reasons for regular inspection and maintenance procedures:

1. They save money in the long run by reducing down time and often prevent more costly repairs.
2. They help to insure driver comfort and safety.
3. They add to your store of knowledge about these systems and maintain your level of efficiency.

About half of all heavy duty vehicles have air conditioners. Surveys of AC system owners find that over 30% of the systems are serviced every six months or less, and another 62% are serviced at least once a year.

The survey also covered how often the different components required maintenance. Figure 7.1 below shows survey finding percentages. Failure of any of the AC components listed in the survey could cause a system to malfunction or stop cooling.

Figure 7-1
This chart shows maintenance frequency, lists key parts and how often they require maintenance.

INSPECTION & MAINTENANCE SURVEY

How often are your air conditioners serviced?				
Average	1 to 6 months 30%	7 to 12 months 62%	More than 12 months 6%	Never 2%

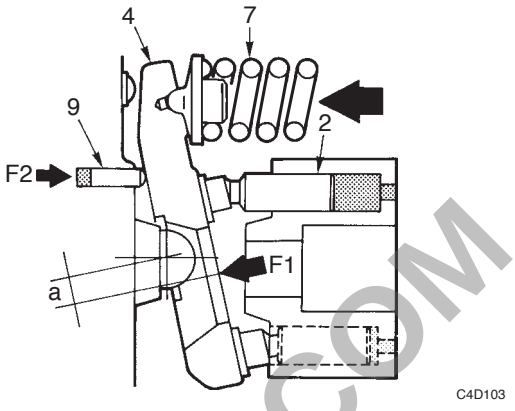
Which AC components require frequent maintenance?					
Belts 32%	Compressor Clutch 26%	Condenser 12%	Add Refrigerant 12%	Refrigerant Lines 11%	Valves 7%

Note: The above survey results may not apply to your situation. Actual operating conditions for the vehicles you service will determine or influence maintenance frequency and requirements.

The following inspection procedures should take about 15 to 20 minutes, longer if corrective steps, part replacement or adding refrigerant is necessary. There is a "Preventive Maintenance Worksheet" you may use at the end of this chapter, Figure 7-9

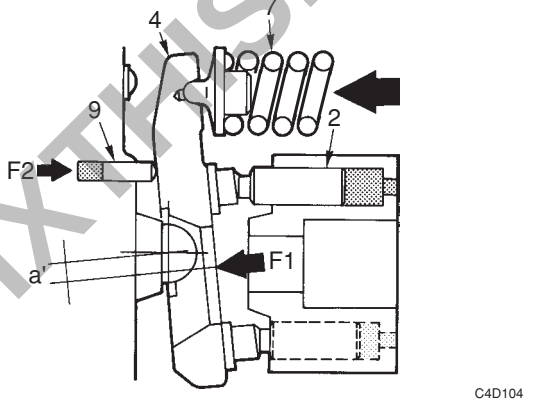
Download full manual at youfixthis.com

If the discharge pressure becomes larger than the preset value for the spring (7), the inclination of the swash plate (4) is made smaller by the resultant of the piston's force F1 x a and the piston's force F2. The swash plate (4) is kept at the inclination that balances the discharge pressure and the spring force.



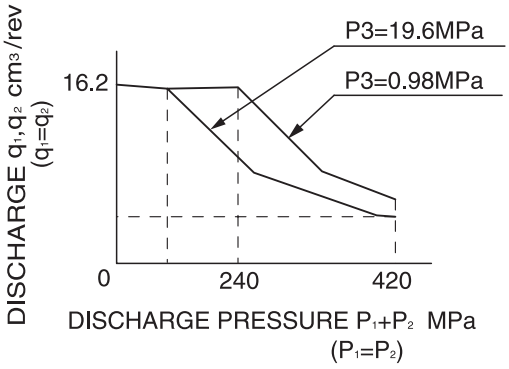
C4D103

If the discharge pressure further increases, the inclination of the swash plate (4) becomes much smaller. At this time, the arm length "a" on which the resultant of the piston's force F1 works decreases to "a' ". This means that a much larger force F1 is needed to keep the balance.



C4D104

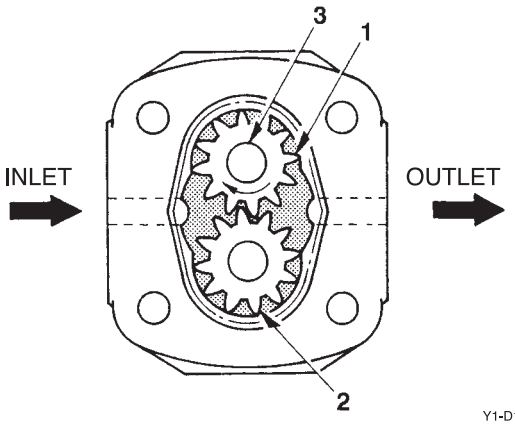
Thus, by changing the inclination of the swash plate (4) the discharge is controlled and only minimum pressure and flow required for the load are supplied from the pump. This minimizes the pressure loss of the pump. The inclination of the swash plate (4) varies depending on the operating pressures not only by the pumps P1 and P2 but also by the pump P3. Thus, the P-Q curve for the piston pumps shows that the engine's power is fully utilized (full horse power control).



G4D102

Gear Pump

The gear pump consists of a single gear case, inside of which is a drive gear (1) and a driven gear (2) engaged with each other. By turning the drive shaft (3), the space between the case and the gears is filled with oil. This oil is thus sent through the pump from the inlet to the outlet.



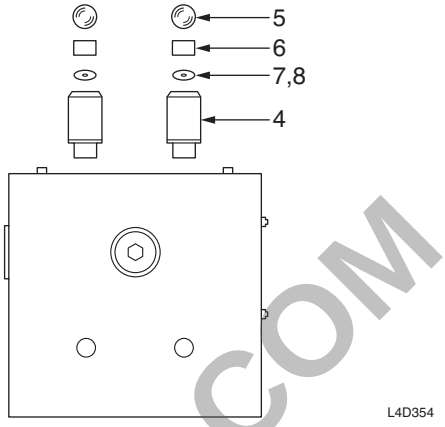
Y1-D101E

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

6. Remove the push rods (4).

7. Remove the balls (5) and the holders (6) from the push rods (4).

8. Remove the shims (7), (8) from the push rods (4).



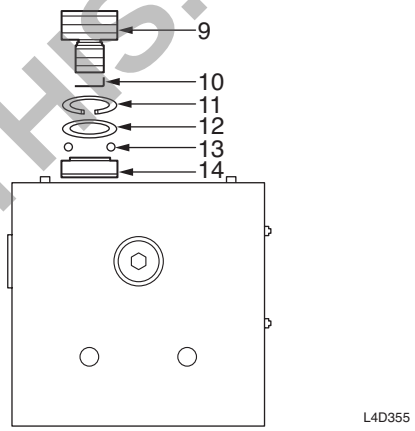
9. Remove the pistons (9).

10. Remove the wires (10) from the pistons (9).

11. Remove the snap ring (11).

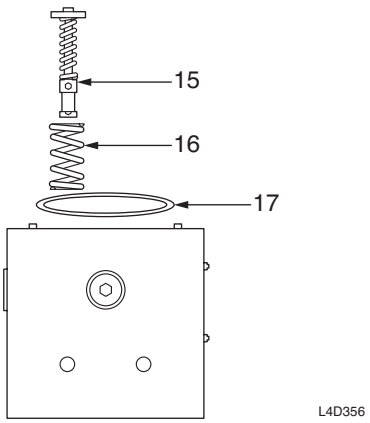
12. Remove the washers (12).

13. Remove the balls (13) and the sleeves (14).

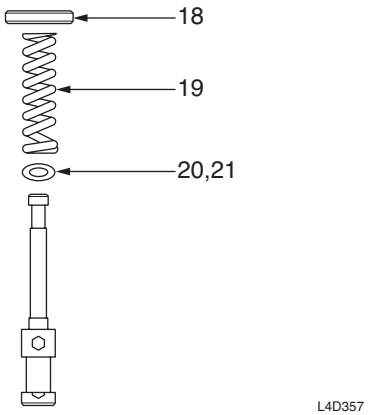


14. Remove the reducing valves (15) and springs (16).

15. Remove the O-rings (17).



16. Disassemble the reducing valve.
    a. Remove the retainer (18).
    b. Remove the spring (19).
    c. Remove the shim (20), (21).

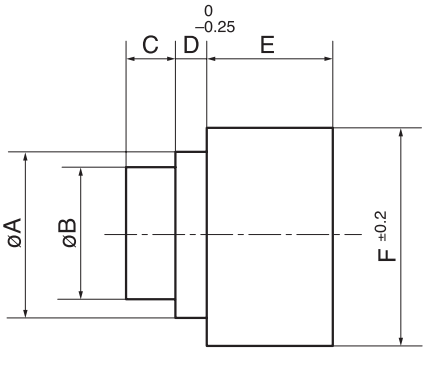


PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TABLE OF SPECIAL TOOLS

Installation Jig (B)

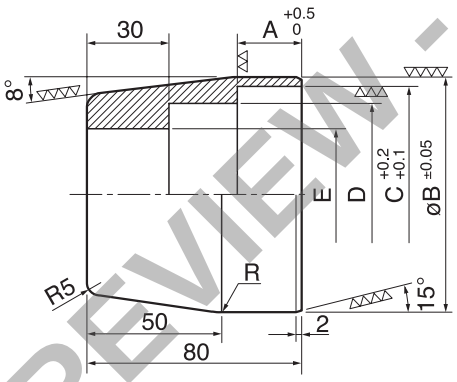


MATERIAL: SS41

Unit: mm

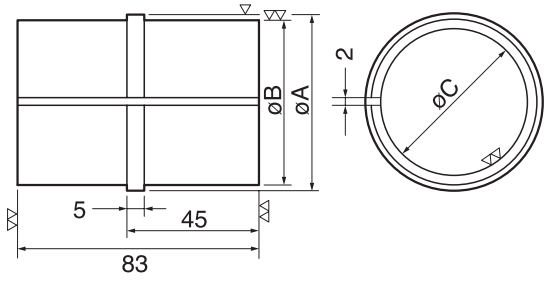
	Installation Jig (B)					
	A	B	C	D	E	F
Boom	54	45	15	5	30	60
Arm	54	45	15	5	30	60
Bucket	49	40	15	5	30	55
Dozer Blade	67	55	15	5	30	73
Offset	54	45	15	5	30	60

Sliding Jig (C)



MATERIAL: STKM13C

Fitting Jig (D)



MATERIAL: NYLON

Unit: mm

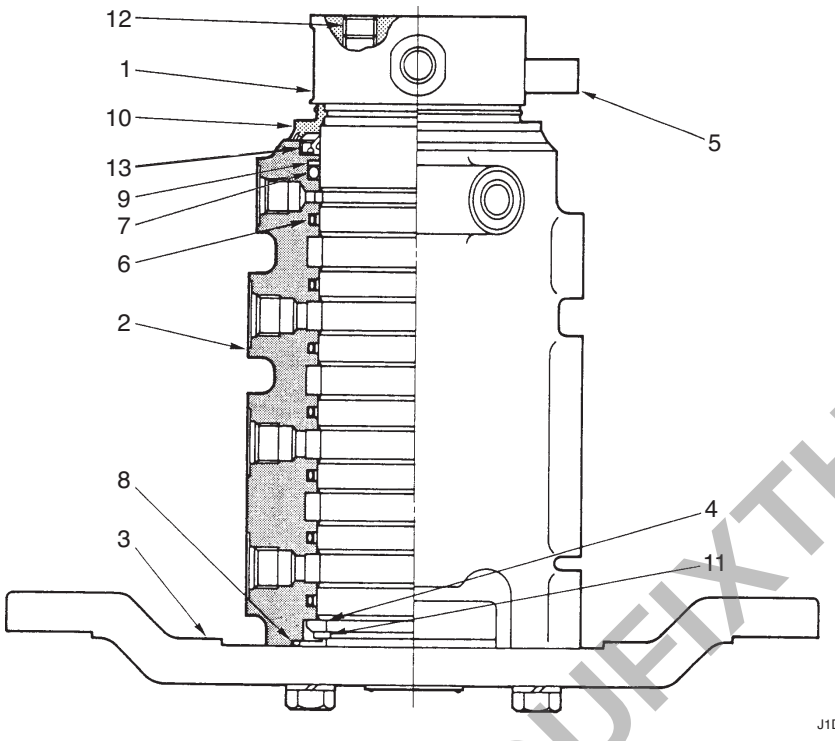
	Sliding Jig (C)					Fitting Jig (D)		
	A	B	C	D	E	A	B	C
Boom	25	90.5	88	70	50	95	93	85
Arm	20	80.5	78	60	40	85	83	75
Bucket	20	70.5	68	50	30	75	73	65
Dozer Blade	25	100.5	98	80	60	105	103	95
Offset	25	90.5	88	70	50	95	93	85

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SWIVEL JOINT

CONSTRUCTION



1. Shaft
2. Hub
3. Flange
4. Thrust Ring
5. Pin
6. Slipper Seal
7. O-ring
8. O-ring
9. Backup Ring
10. Dust Seal
11. Snap Ring
12. Plug
13. Dust Seal

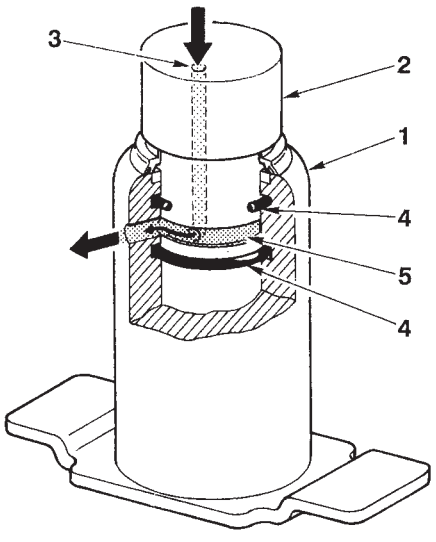
OPERATION

The swivel joint is mounted in the center of the machine's slew axis. It serves the role of maintaining continuous connections in the hydraulic circuit regardless of the upper frame's slew angle.

The shaft (2) mounted in the hub (1) rotates with the slewing of the upper frame. The number of the ports attached to the shaft (2) is the same as the number of fluid circuits.

The inner circumference surface of the hub and the outer circumference surface of the shaft, grooves are cut which serve as passages for hydraulic oil. Seals (4) are placed above and below these circumferential grooves.

Oil flowing in from a port flows constantly through this hydraulic passage (5) between the hub and shaft and the circuits can be connected without a break when the upper frame is slewing.



PREVIEW - YOUFIXTHIS.COM

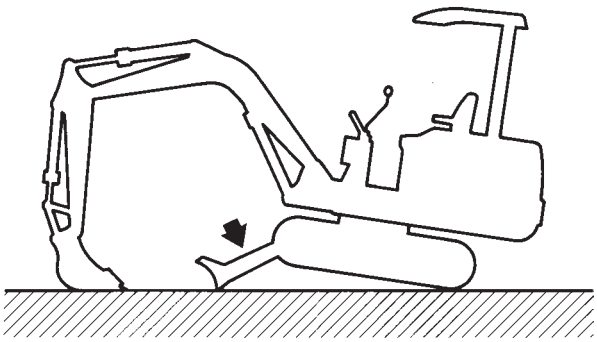
Download full manual at youfixthis.com

THE AMOUNT OF DOZER BLADE NATURAL DROP IS GREAT OR THE DOZER BLADE WON'T HOLD THE MACHINE UP.

1	Is the amount of natural drop within the standard?	Within the standard.	Normal
		Not within the standard.	
2	Inspect for internal leakage in the blade cylinder.	Faulty	Repair or replace the housing block.
		Normal	
3	Inspect the swivel joint and control valve.	Faulty	Repair or replace the swivel joint, or replace the control valve.

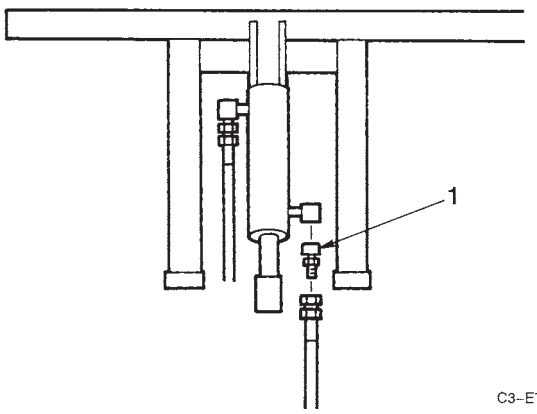
1. Is the dozer blade's natural drop within the standard?
   ☞ "II. Specifications, Standards for Judging Performance"

2. Inspect for internal leakage in the dozer blade cylinder.
   a. Using the hoe attachment, raise the machine's body, then lower the dozer blade fully.



Y2-E703

   b. Disconnect the dozer blade cylinder's rod side hose and drain out the oil in the piping. Insert a plug (1) in the disconnected hose.



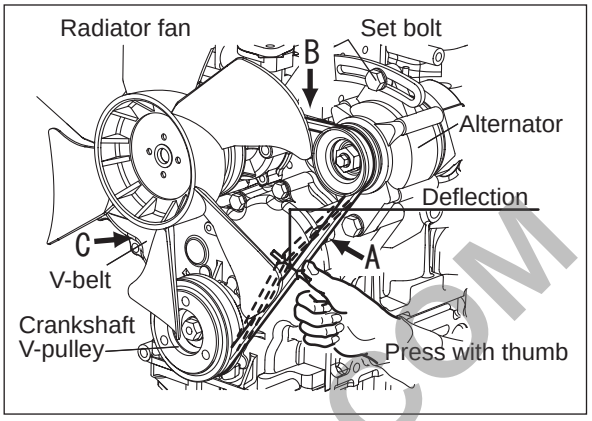
C3-E702

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

(2) V-belt tension check

When there is not enough tension in the V-belt, the V-belt will slip making it impossible for the alternator to generate power and cooling water pump and cooling fan will not work causing the engine to overheat.
Check and adjust the V-belt tension (deflection) in the following manner.



[NOTICE]

Be especially careful not to splash engine oil on the V-belt, because it will cause slipping, stretching and aging of the belt.

1)Press the V-belt with your thumb [approx. 98N (10 kgf)] at the middle of the V-belt span to check the tension (deflection).
Available positions to check and adjust the V-belt tension (deflection) are at the A, B or C direction as shown in the illustration right.
You may choose a position whichever you can easily carry out the check and adjustment on the machine unit.

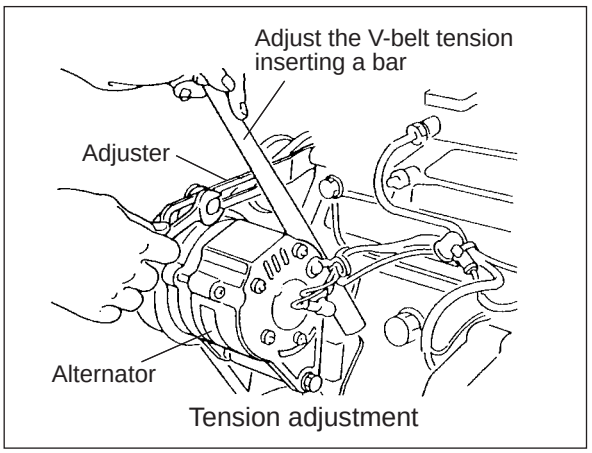
- "New V-belt" refers to a V-belt which has been used less than 5 minutes on a running engine.
- "Used V-belt" refers to a V-belt, which has been used on a running engine for 5 minutes or more.

The specified deflection to be measured at each position should be as follows.

(Unit: mm)

Direction	A	B	C
For used V-belt	10 to 14	7 to 10	9 to 13
For new V-belt	8 to 12	5 to 8	7 to 11

2)If necessary, adjust the V-belt tension (deflection).
To adjust the V-belt tension, loosen the set bolt and move the alternator to tighten the V-belt.
After replacing with a new V-belt and adjusting it, run the engine for 5 minutes and readjust the deflection to the value in the table above.



Tension adjustment

3)After replacing with a new V-belt and adjusting it, run the engine for 5 minutes and readjust the deflection to the value in the table above.

4)Visually check the V-belt for cracks, oiliness or wear. If any, replace the V-belt with new one.

PREVIEW - YOUFIXTHIS.COM

[NOTICE]

1)When a diaphragm is damaged, pressure control inside the crankcase becomes insufficient, and troubles occur. When the internal pressure of the crankcase decreases too much due to the damage of a spring, much blowby gas containing oil is reduced in intake air system, and it may cause the combustion defect by the early dirt of the intake valve or the urgent rotation of the engine by the oil burning.

When pressure progresses in the crank case too much due to the wrong operation of the diaphragm and so on, it is considered that oil leakage from the joint of a oil pan, a oil seal and so on will occur. When a diaphragm is damaged, blowby is discharged from the breathing hole on the side of diaphragm cover, and not reduced in the intake manifold. Therefore, be careful of the diaphragm trouble.

2)At lubricating oil replacement or lube oil supply

The amount of lubricating oil isn't to be beyond the standard upper limit (in the engine horizontally, the upper limit mark of the dip stick). Since the blowby gas redactor is adopted, be careful that the amount of oil mist may be inducted in the combustion chamber and the oil hammer sometimes may occur, when the lubricating oil quantity is beyond the upper limit or an engine is operated beyond the allowable maximum angle of an engine.

[Reassembly]

Replace the diaphragm with new one, when it is damaged.

Point7

[Disassemble]

- Keep the removed push rods by attaching tags showing corresponding cylinder Nos.

[Reassemble]

- Always apply oil to the contact portions of the push rods and clearance adjusting screws.

Point8

[Disassemble]

- Loosen the cylinder head bolts in two steps in the illustrated order.
- Place the cylinder head assy on a paper board to prevent the combustion face from any damage.

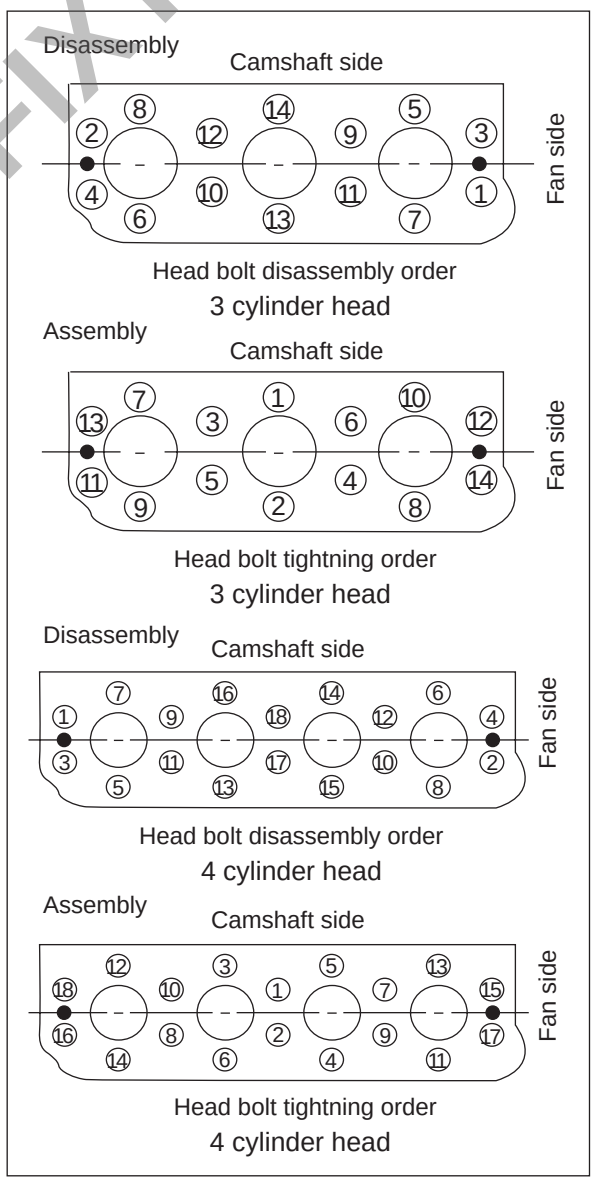
[Reassemble]

- Remove the head gasket with a new one.
- Uniformly install the head bolts manually after applying oil on the threaded and seat portions.
- They shall be tightened in two steps in the reverse of the order for disassembly.
- Tightening torque

N•m (kgf•m)

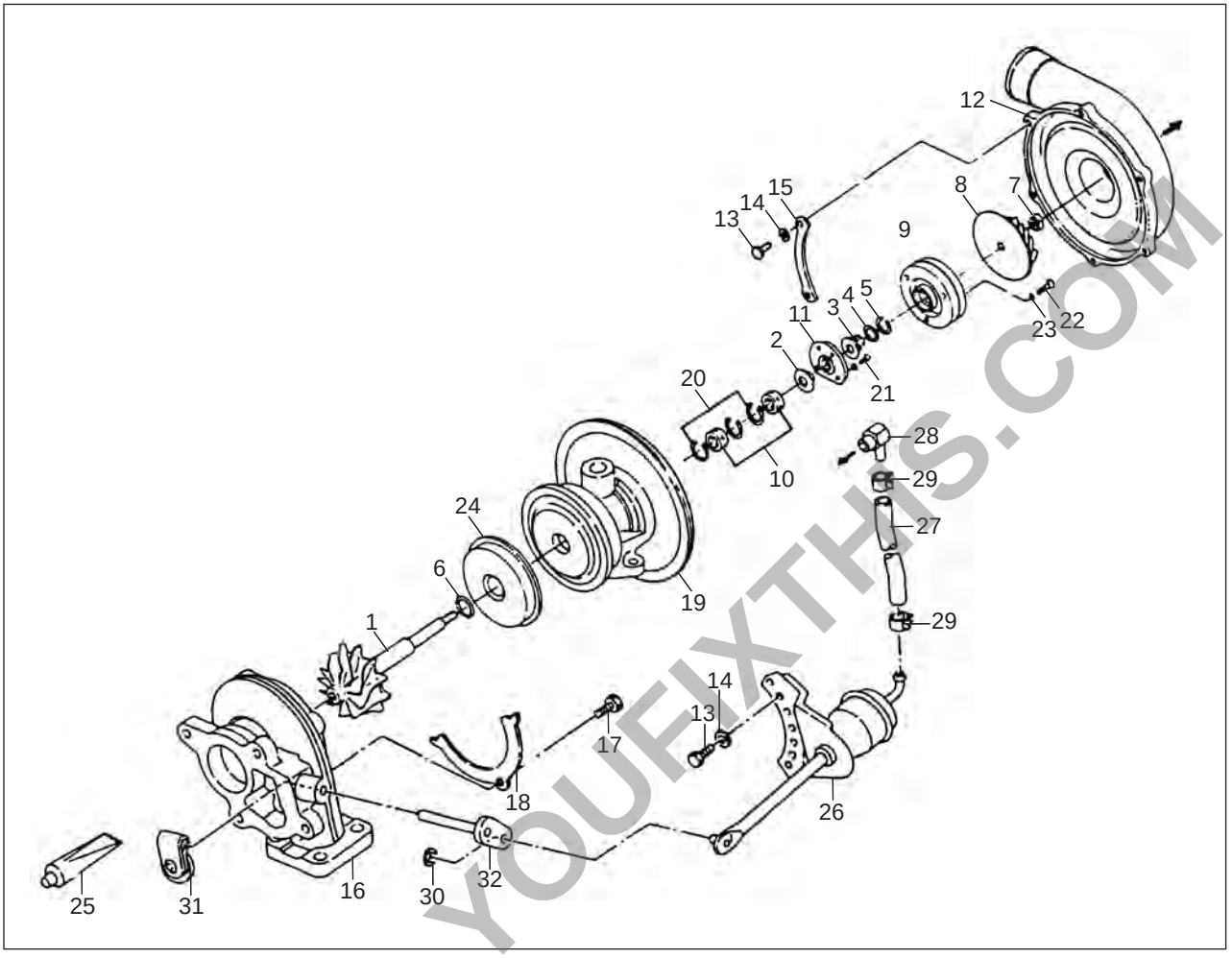
	TNV82A	TNV84-88
First step	30.0 to 34.0 (3.1 to 3.5)	41.1 to 46.9 (4.2 to 4.8)
Second step	61.7 to 65.7 (6.3 to 6.7)	85.3 to 91.1 (8.7 to 9.3)

	4TNV94L/98	4TNV106 (T)
First step	49.0 to 58.8 (5.0 to 6.0)	88.3 to 98.1 (9.0 to 10.0)
Second step	103.1 to 112.9 (10.5 to 11.5)	188.0 to 197.8 (19.0 to 20.0)



PREVIEW - YOUFIXTHIS.COM

8.1.4 Components



No.	Part name	No.	Part name
1	Turbine shaft	17	Bolt
2	Thrust bushing	18	Lock plate
3	Oil thrower	19	Bearing housing
4	Seal ring	20	Retaining ring
5	Seal ring	21	Screw
6	Seal ring (turbine side)	22	Screw
7	Lock nut	23	Lock washer
8	Impeller	24	Heat protector
9	Seal plate	25	Liquid gasket
10	Journal bearing	26	Waste gate actuator
11	Thrust bearing	27	Hose
12	Compressor housing	28	Adapter
13	Flanged bolt	29	Clip
14	Spring washer	30	Retaining ring
15	Clamp	31	Waste gate valve
16	Turbine housing	32	Link plate

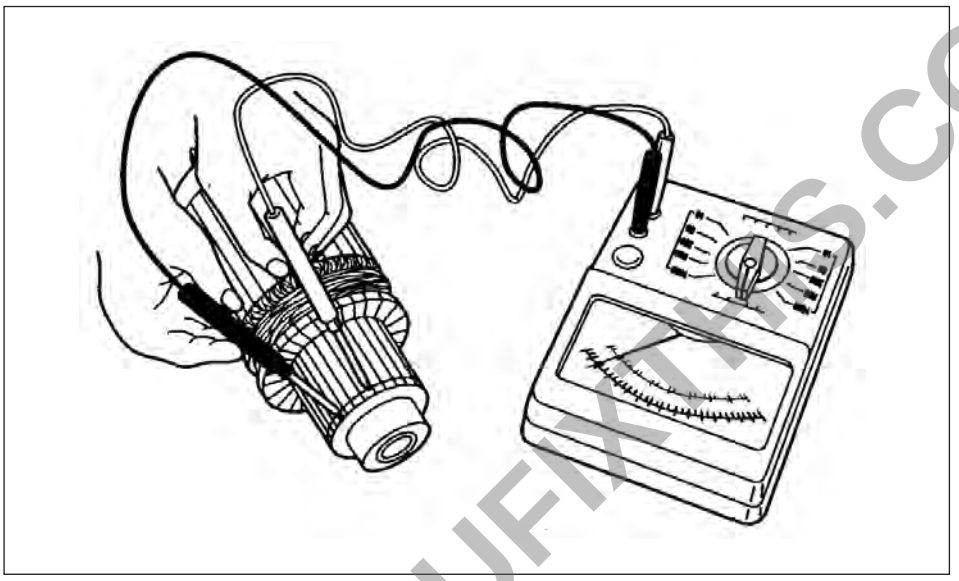
PREVIEW - YOUFIXTHIS.COM

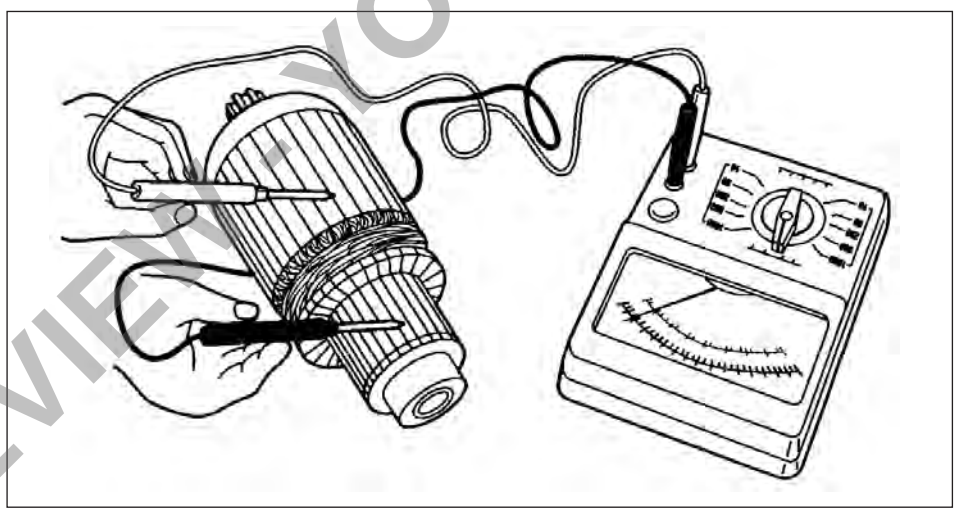
3)Armature coil continuity and earth tests

Test type	Measurement point	Normal	Abnormal (cause)
Continuity test	Across commutator	Yes	None (open circuit)
Earth test	Between commutator and shaft or armature	None	Yes (short-circuiting)

Replace if needed

.

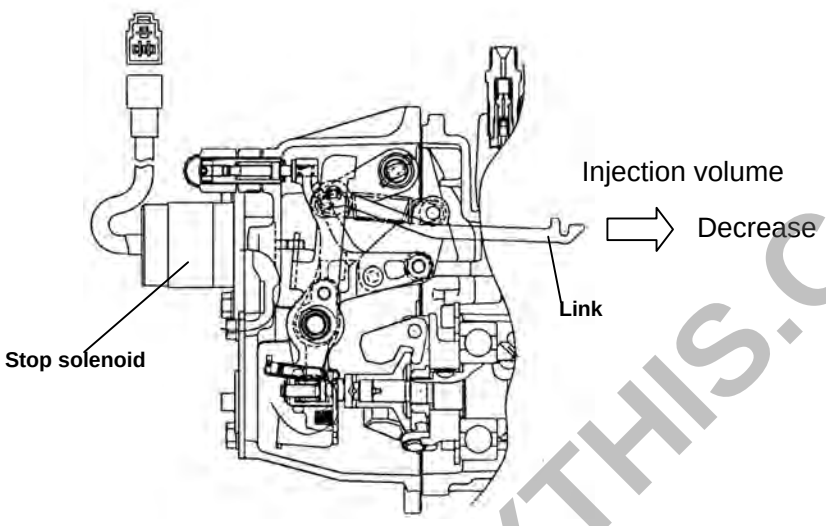




PREVIEW - YOUFIXTRS.COM

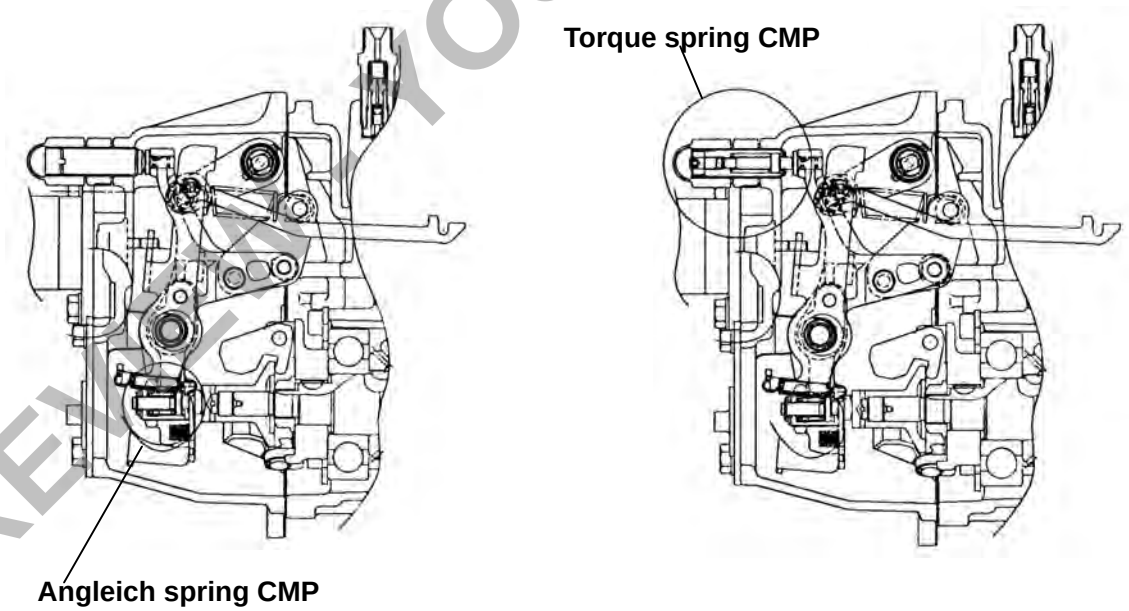
(2) Engine stop device

The magnetic solenoid is equipped to stop the engine.



(3)Torque rise equipment

As mentioned before, this governor has a structure that allows you to equip it with an anglich and/or torque spring as torque rise equipment. In this way the requirements for different engines can full filled.



PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 24 of 678 pages

The full manual includes:

- All 678 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Takeuchi TB138FR, TB138FR Compact Excavator, YDP-MP2, YDP-MP4 Workshop Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual