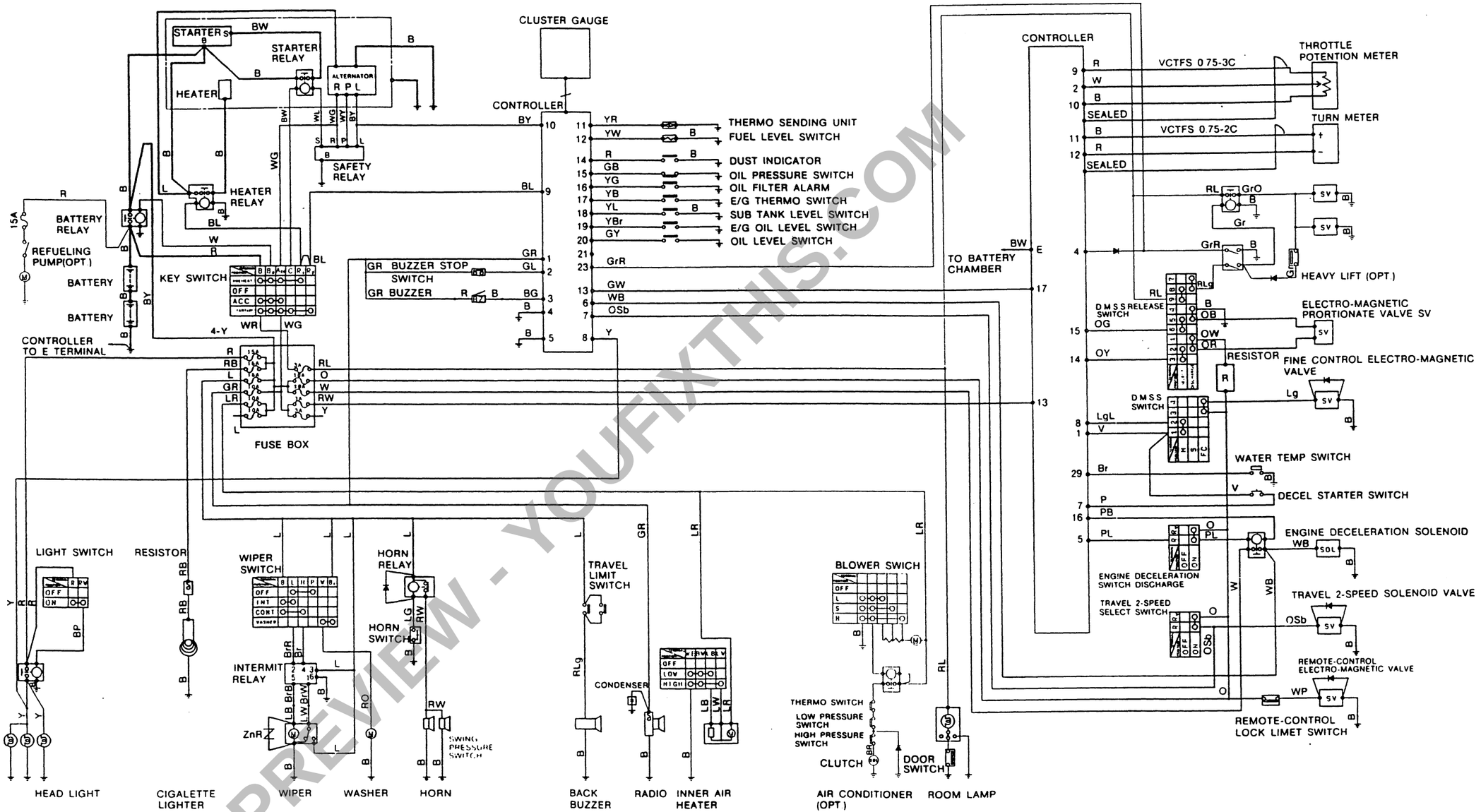
1. ELECTRIC SYSTEM DIAGRAM



PREVIEW - YOUFIXTHIS.COM

WIRING COLOR SAMPLE W L

LINE COLOR (BLUE LINE)

GROUND COLOR (WHITE GROUND)

Color table of wiring

Symbol	Color	Symbol	Color
B	Black	W	White
G	Green	Y	Yellow
L	Blue	P	Pink
R	Red	O	Orange

Symbol	Color	Symbol	Color
Br	Brown	V	Violet
Lg	Leave green		
Gr	Gray		
Sb	Lead		

Table of classified wiring	
AV60	
AV20	
AV8.5	
AV2.1.25	
AV0.85	

Download full manual at youfixthis.com

2. HYDRAULIC SYSTEM DIAGRAM

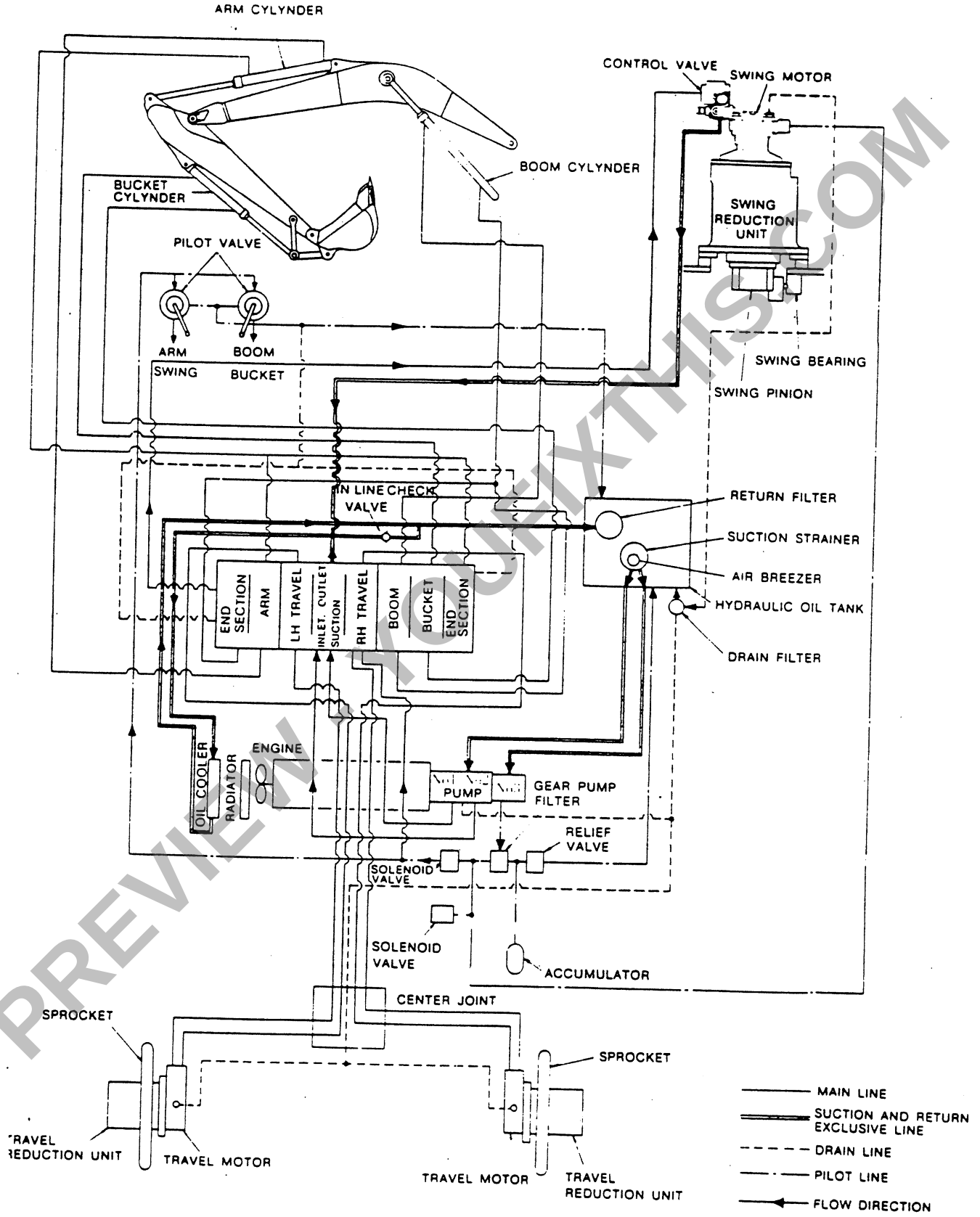


Fig. 1

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

1. TIGHTENING TORQUES FOR CAPSCREWS AND NUTS

Tables 1 and 2 indicate tightening torques applicable to cases where no special note is given.

Overtightening of bolts may result in a twist-off and a fracture under load. Undertightening may lead to a loosening or loss of bolts. Always tighten bolts to proper torques.

Table 1 Standard tightening torques for metric coarse screw threads

Unit: kgf·m (ft·lbs)

Classification / Nominal size	4T		7T		10T	
	No lubrication	Oil lubrication	No lubrication	Oil lubrication	No lubrication	Oil lubrication
M 6 P=1	0.45±0.05 (3.2±0.4)	0.38±0.04 (2.7±0.3)	0.98±0.10 (7.1±0.7)	0.83±0.08 (6.0±0.6)	1.77±0.18 (12.8±1.3)	1.5±0.15 (10.8±1.1)
M 8 P=1.25	1.09±0.11 (7.9±0.8)	0.92±0.09 (6.6±0.6)	2.4±0.20 (17.3±1.4)	2.0±0.20 (14.4±1.4)	4.3±0.40 (31.0±2.9)	3.6±0.40 (26.0±2.9)
M10 P=1.5	2.2±0.20 (15.9±1.4)	1.83±0.18 (13.2±1.3)	4.7±0.50 (33.9±3.6)	4.0±0.40 (28.9±2.9)	8.5±0.90 (61.3±6.5)	7.2±0.70 (52.0±5.1)
M12 P=1.75	3.7±0.40 (26.7±2.9)	3.2±0.30 (23.1±2.2)	8.1±0.80 (58.4±5.8)	6.8±0.70 (49.1±5.1)	14.6±1.50 (105±10.8)	12.3±1.20 (88.8±8.7)
M14 P=2	5.9±0.60 (42.6±4.3)	5.0±0.50 (36.1±3.6)	12.8±1.30 (92.4±9.4)	10.8±1.10 (77.9±7.9)	23±2 (166±14.4)	19.5±1.90 (140±13.7)
M16 P=2	9.0±0.90 (64.9±6.5)	7.6±0.70 (54.8±5.1)	19.5±2 (140±14.4)	16.4±1.6 (118±11.5)	35±4 (252±28.9)	29±3 (209±21.6)
M18 P=2.5	12.4±1.20 (89.5±8.7)	10.5±1 (75.8±7.2)	27±3 (194±21.6)	23±2 (166±14.4)	49±5 (353±36.1)	41±4 (295±28.9)
M20 P=2.5	17.5±1.7 (126±12.3)	14.7±1.40 (106±10.1)	38±4 (274±28.9)	32±3 (230±21.6)	68±7 (490±50.5)	57±6 (411±43.3)
M22 P=2.5	23±2 (166±14.4)	19.6±2.0 (141±14.4)	51±5 (368±36.1)	43±4 (310±28.9)	92±9 (663±64.9)	77±8 (555±57.7)
M24 P=3	30±3 (216±21.6)	24±3 (173±21.6)	65±7 (469±50.5)	53±5 (382±36.1)	118±12 (851±86.6)	96±10 (692±72.2)
M27 P=3	44±4 (317±28.9)	36±3 (259±21.6)	96±10 (692±72.2)	78±8 (562±57.7)	173±17 (1248±122)	140±14 (1010±101)
M30 P=3.5	60±6 (433±43.3)	50±5 (360±36.1)	131±13 (945±93.8)	110±11 (793±79.4)	235±24 (1695±173)	198±20 (1428±144)
M33 P=3.5	81±8 (584±57.7)	68±7 (490±50.5)	176±18 (1270±129)	148±15 (1068±108)	317±32 (2287±230)	266±27 (1919±194)
M36 P=4	105±10 (757±72.2)	88±9 (635±64.9)	227±23 (1638±166)	190±19 (1371±137)	409±41 (2951±295)	343±34 (2475±245)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2. REMOVAL AND INSTALLATION OF HYDRAULIC PUMP

2.1 REMOVING HYDRAULIC PUMP

1) After stopping the engine, relieve the pressure from inside the tank by using a spanner to loosen the socket (31) of the air breather (30) on top of the hydraulic tank. After confirming pressure relief, loosen the capscrew (32) and remove the cover (33).

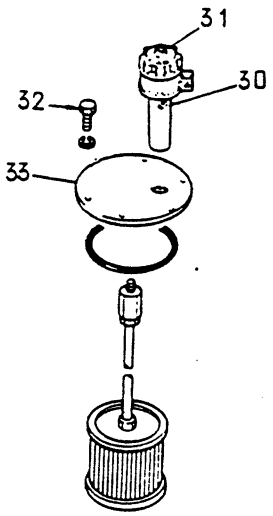


Fig. 3

2) Remove the panel (34) and bracket (35) of the guard on top of the hydraulic pump.

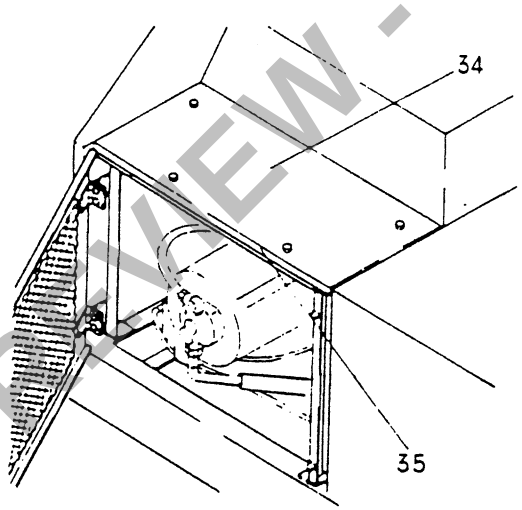


Fig. 4

3 Fix suction stopper (36) to the suction port of the hydraulic oil tank.

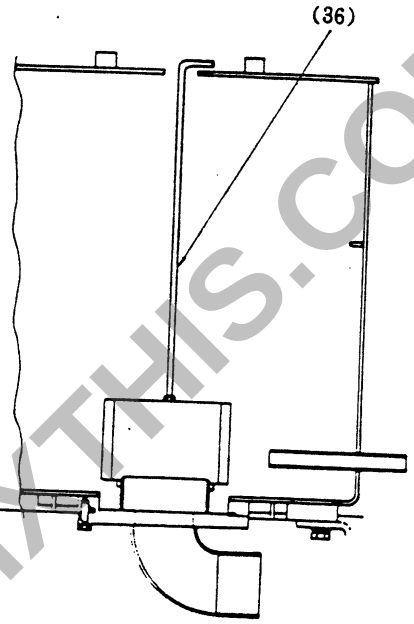


Fig. 5

NOTE

For the suction stopper (36), reter to Item 6 "Suction Stopper Detail"

4) Disconnect suction hoses (37,38) discharge hoses 39,40), drain hose (41) and external pilot hose 42), and apply a plug to the opening of each hose and to each port of the hydraulic pump.

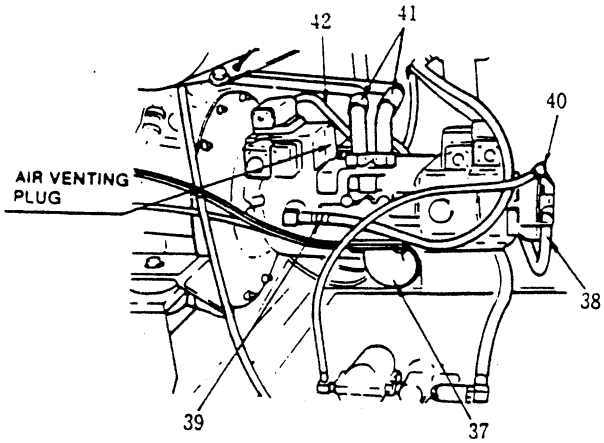


Fig. 6

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

1. INTRODUCTION

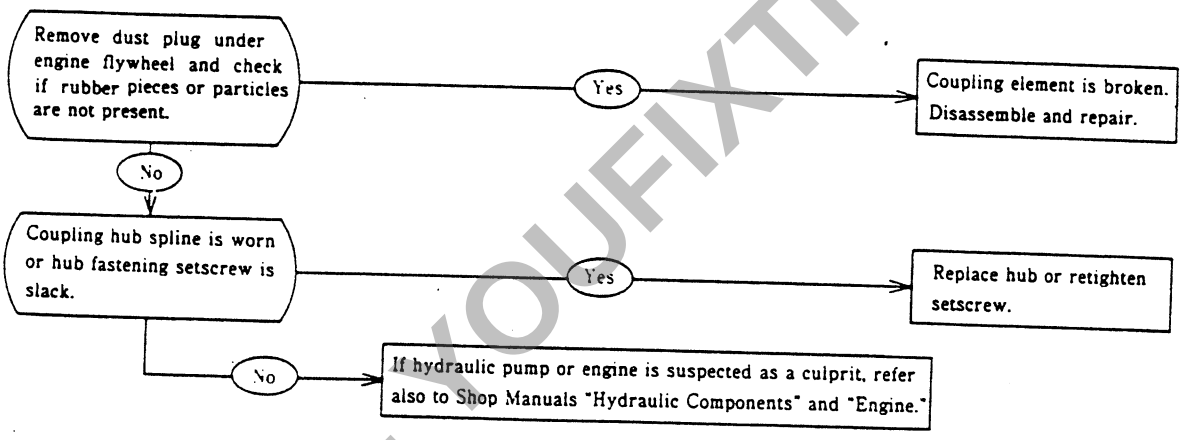
1.1 MACHINE IN GENERAL

(1) If even a minor fault is left intact and operation is continued, a fatal failure may be caused, entailing a large sum of expenses and long hours of restoration. Therefore when even a small trouble occurs, do not rely on your intuition and experience, but look for the cause based on the troubleshooting principle and perform maintenance and adjustment to prevent major failure from occurring. Keep in mind that a fault results from a combination of different causes.

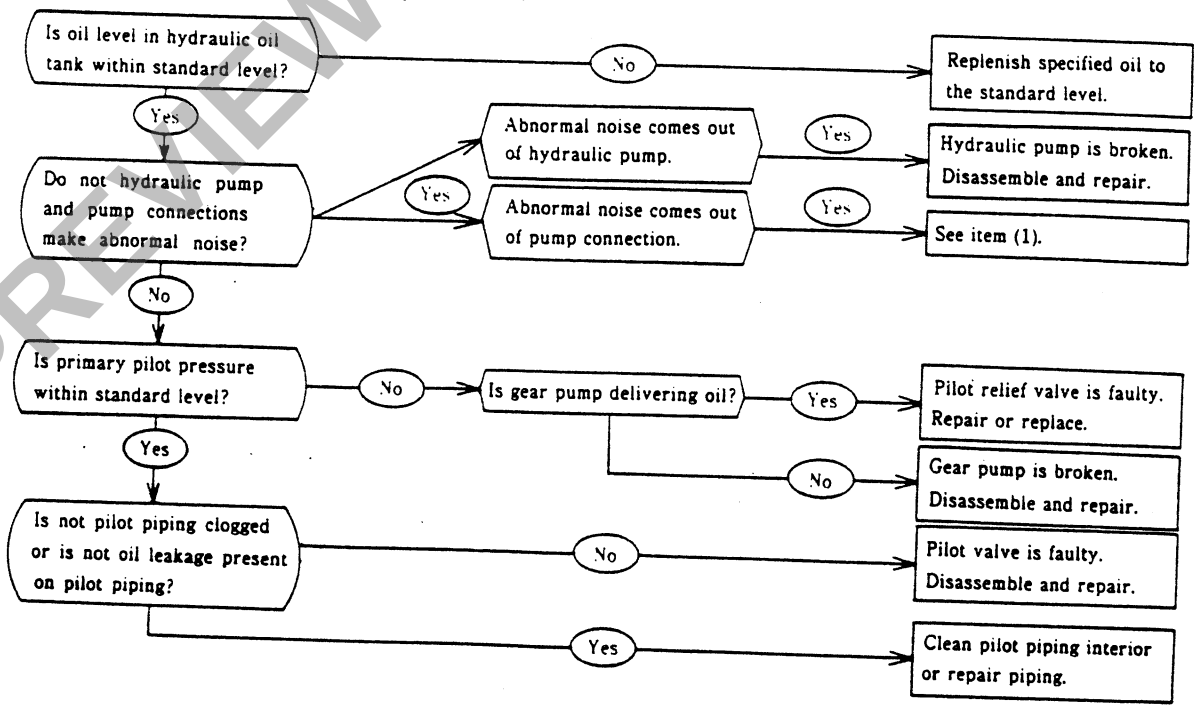
(2) The following lists up commonly occurring faults and possible causes with this machine. For the troubleshooting of the engine, refer to the Shop Manual-Engine. For the troubleshooting of hydraulic components, refer to a separate Shop Manual-Hydraulic Components.

2. DRIVE SYSTEM

(1) Unusual noise comes out of pump connection.



(2) Engine starts but machine does not operate at all.



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

3. SPECIFICATIONS AND PERFORMANCE

SPEED AND GRADEABILITY

	MD320BLC
Swing speed	9.8 r.p.m
Travel speed	5.5/3.7km/hr (3.4/2.3 MPH)
Gradeability	35° (70%)

ENGINE

		MD320BLC
Model		Mitsubishi 6D22-T
Type		4-cycle, water-cooled, direct injection type diesel with turbo charger
Number of cylinder × Bore × Stroke		6×130mm×140mm (6×5.1 in×5.5 in)
Total displacement		11.149 ℓ (680 cuin)
Rated output power/ revolution	JIS D 1005 Net	230 PS/1,900 r.p.m
	SAE J 1349 Net	169 kW/1,900 r.p.m
	DIN 6270 Net	230 PS/1,900 r.p.m
Maximum torque/ revolution	JIS D 1005 Net	95 kg·m/1,400 r.p.m
	SAE J 1349 Net	932 N·m/1,400 r.p.m
	DIN 6270 Net	95 kgf·m/1,400 r.p.m

HYDRUALIC COMPONENTS

	MD320BLC
Hydraulic pump	Double variable displacement pump+Gear pump
Hydraulic motor (swing)	Axial piston motor
Hydraulic motor (travel)	Axial piston motor
Control valve	5-section multiple control valve+ 1-section control valve (swing)
Cylinder (Boom, Arm, Bucket)	Double acting cylinders
Return filter	Filter paper with safety valve
Oil cooler	Air-cooled type

WEIGHT

	MD320BLC
Fully equipped weight	Approx. 30,800 kg (Approx. 67,900 lbs)
Upper machinery	Approx. 12,900 kg (Approx 28,440 lbs)
Lower machinery (with 600 mm (24") grouser shoes)	Approx. 11,900 kg (Approx. 26,230 lbs)
Attachment (with boom+3.1m (10'2") arm+1.2m³ (1.57 cu yd)) bucket	Approx. 6,000 kg (Approx 13,230 lbs)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

1. GENERAL

1) The terms used in this Maintenance Standards shall have definitions as follows:

   Standard value:

   Standard values for adjustment or assembly of a new machine, provided the values are for standard specifications (machine with standard attachments and shoes) unless otherwise specified.

   Allowable value:

   A limit value that shall not be exceeded. If it is exceeded, remedy or replacement is required. Avoid using a machine, exceeding this value to maintain the performance or safety of the machine.

   Limit value of use:

   A value at which machine adjustment or parts replacement becomes unnecessary if it is exceeded. If the machine is still used beyond the limit value, the machine will be faced with failures leading to the out-of operation and will develop safety problems.

   Oil temperature:

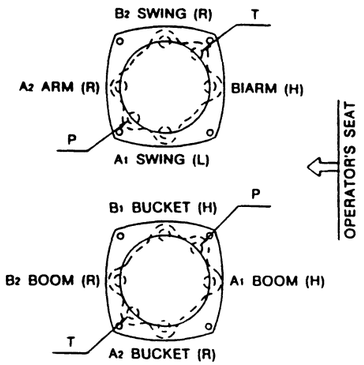
   Temperature to be applied. The temperature of hydraulic oil refers to that in the hydraulic oil tank. Hydraulic oil must be circulated continuously so that the oil temperature in the circuits may be levelled off with that of the tank.

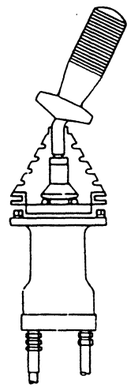
2) For items without allowable values, adjust and repair or replace them with reference to the standard values.
3) Rubber products such as hydraulic hoses, O rings and oil seals deteriorate with time. Replace them regularly or at overhaul.
4) It is advisable that important hoses for safety purpose be designated as very important parts (V.I.P.) and be replaced regularly.
5) In proceeding to maintenance, it is essential to get familiar with machine operating procedures, precautions to be observed and inspection/lubrication procedures. Read through the Operators Manual as well.

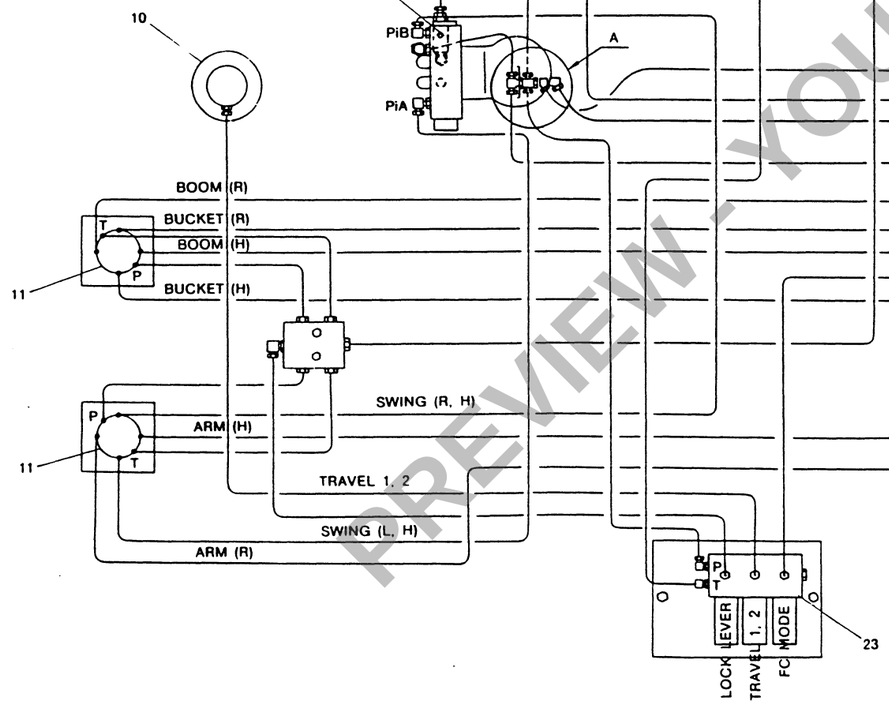
PREVIEW - YOUFIXTHIS.COM

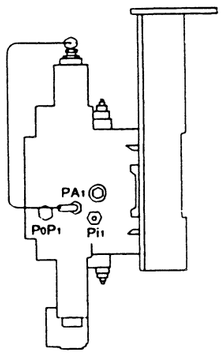
Download full manual at youfixthis.com

PILOT PIPING

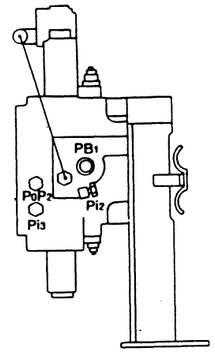




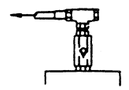




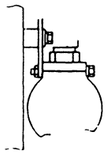
VIEW TO A



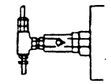
VIEW TO B



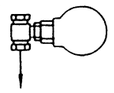
VIEW TO C



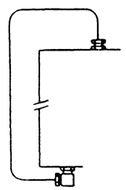
VIEW TO D



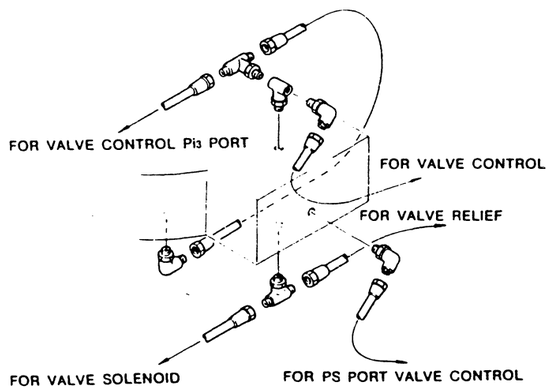
VIEW TO E



VIEW TO F



VIEW TO G



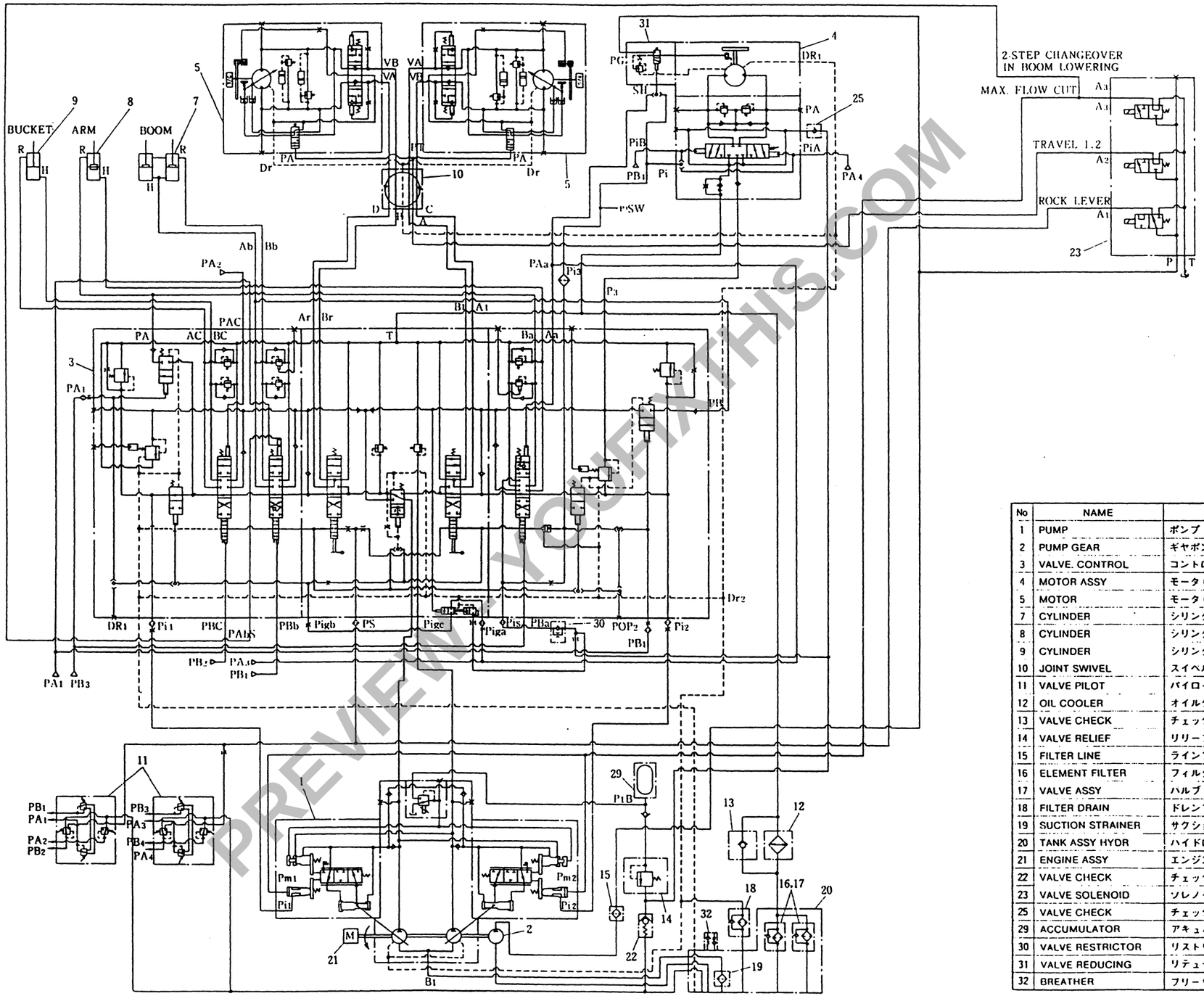
DETAL A

Fig. 2C

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

3. HYDRAULIC CIRCUITS AND COMPONENTS



No	NAME	名称	型番
1	PUMP	ポンプ	K3V140DT
2	PUMP GEAR	ギヤポンプ	KP1007
3	VALVE, CONTROL	コントロールバルブ	KMX150B
4	MOTOR ASSY	モータ(旋回)	M2X210-KSC20R
5	MOTOR	モータ(走行)	MAG150VP-5000
7	CYLINDER	シリンダ(ブーム)	
8	CYLINDER	シリンダ(アーム)	
9	CYLINDER	シリンダ(バケット)	
10	JOINT SWIVEL	スイベルジョイント	
11	VALVE PILOT	パイロットバルブ	TH40K
12	OIL COOLER	オイルクーラ	
13	VALVE CHECK	チェックバルブ	Y-2401
14	VALVE RELIEF	リリーフバルブ	YRD-03
15	FILTER LINE	ラインフィルタ	Y-1795
16	ELEMENT FILTER	フィルタエレメント	Y-1635
17	VALVE ASSY	バルブ	Y-1506
18	FILTER DRAIN	ドレンフィルタ	SP08-10
19	SUCTION STRAINER	サクションストレーナ	Y-3649
20	TANK ASSY HYDR	ハイドロリックタンク	
21	ENGINE ASSY	エンジン	6D22T
22	VALVE CHECK	チェックバルブ	
23	VALVE SOLENOID	ソレノイドバルブ	VBY121
25	VALVE CHECK	チェックバルブ	
29	ACCUMULATOR	アキュムレータ	NOK-MU70-300
30	VALVE RESTRICTOR	リストリクタバルブ	
31	VALVE REDUCING	リデューシングバルブ	
32	BREATHER	ブリーザ	

PREVIEW YOUFIXTHIS.COM
Download full manual at youfixthis.com

Table 2 Standard tightening torques for metric fine screw threads

Unit: kgf·m (ft·lbs)

Classification / Nominal size	4T		7T		10T	
	No lubrication	Oil lubrication	No lubrication	Oil lubrication	No lubrication	Oil lubrication
M 8 P=1	1.15±0.11 (8.3±0.8)	0.97±0.10 (7.0±0.7)	2.5±0.2 (18.0±1.4)	2.1±0.20 (15.2±1.4)	4.5±0.40 (32.5±2.9)	3.8±0.40 (27.4±2.9)
M10 P=1.25	2.3±0.20 (16.6±1.4)	1.91±0.19 (13.8±1.4)	4.9±0.5 (35.4±3.6)	4.2±0.40 (30.3±2.9)	8.9±0.90 (64.2±6.5)	7.5±0.70 (54.1±5.1)
M12 P=1.25	4.0±0.40 (28.9±2.9)	3.4±0.3 (24.5±2.2)	8.7±0.9 (62.8±6.5)	7.3±0.70 (52.7±5.1)	15.7±1.6 (113±11.5)	13.2±1.3 (95.3±9.4)
M16 P=1.5	9.4±0.90 (67.8±6.5)	7.9±0.8 (57.0±5.8)	20±2 (144±14.4)	17.2±1.70 (124±12.3)	37±4 (267±28.9)	31±3 (223±21.6)
M20 P=1.5	19±1.90 (137±13.7)	15.8±1.6 (114±11.5)	41±4 (295±28.9)	34±3 (245±21.6)	74±7 (534±50.5)	62±6 (447±43.3)
M24 P=2	32±3 (230±21.6)	27±3 (194±21.6)	70±7 (505±50.5)	58±6 (418±43.3)	126±12 (909±86.6)	105±10 (757±72.2)
M30 P=2	65±6 (469±43.3)	54±5 (389±36.1)	142±14 (1024±101)	118±12 (851±86.6)	255±26 (1840±187)	212±21 (1529±151)
M36 P=3	109±11 (786±79.4)	91±9 (656±64.9)	238±23 (1717±166)	198±20 (1428±144)	428±43 (3088±310)	357±36 (2576±259)

2. TIGHTENING TORQUES FOR NUTS AND SLEEVES

Table 3 indicates standard tightening torques applicable to cases where no particular note is given.

Overtightening or undertightening of nuts and sleeves in bite type tube fittings may develop oil leaks through pipe connections. Always tighten nuts and sleeves to proper torques.

Table 3

Manufacturer's name	Working pressure kgf/cm² (lbs/in²)	Tube size O.D. × thickness mm (in)	Tightening torque kgf·m (ft·lbs)
Nippon A.M.C.	280 (3981)	10×1.5 (0.4×0.059)	6 ±1 (43.3±7.2)
		15×2.0 (0.6×0.079)	15±2 (108±14.4)
		18×2.5 (0.7×0.098)	18±2 (129±14.4)
		22×3.0 (0.9×0.1)	22±2 (158±14.4)
		28×4.0 (1.1×0.2)	28±3 (202±21.6)
Ihara Koatu	280 (3981)	35×5.0 (1.4×0.2)	35±3.5 (252±25.3)

Applicable machines : YC-0301～

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

5) Pass a wire rope around the hydraulic pump (1) slightly towards the engine side, hoist the hydraulic pump with the wire rope tensed just enough, and remove the socket bolts (25).

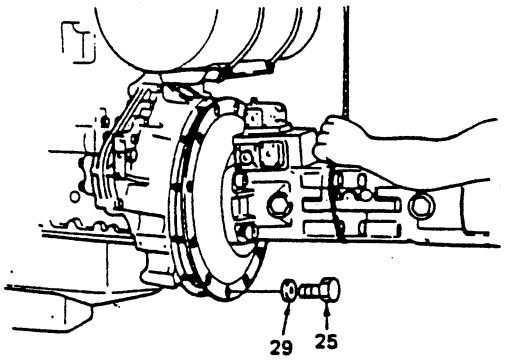


Fig. 7

6) After removing the socket bolts (25), gradually slacken the wire rope and pull the hydraulic pump (1) out towards you. After confirming that the coupling (27) is disengaged, hoist and remove the pump along with the bracket (24).

2.2 INSTALLING HYDRAULIC PUMP

1) Thoroughly remove burrs and stain on the mounting surface of hydraulic pump assembly (1) and the engine flywheel housing.
2) Check that there is no fault on the drive shaft of hydraulic pump assembly (1) and the engine flywheel coupling. Replace parts that are faulty.
3) Place two wire slings around hydraulic pump assembly (1) as shown in Fig.7 and lift it level with a crane.

NOTE

When setting hydraulic pump assembly (1), use care so as not to hit it aginst the guard frame and others.

4) Press the hydraulic pump toward the engine, matching element (27-1) on the engine flywheel side with the insert (27-2) on the hydraulic pump side.
5) When pressing the hydraulic pump toward the engine, match the mounting holes in the engine flywheel housing to those on the hydraulic pump side.
6) After confirming that the coupling has been set in place, tighten socket bolts (25) to a specified torque.
7) Reconnect the once-disconnected hoses and tighten the capscrews and the hose bands.
8) Remove suction stopper (36) of the hydraulic oil tank and fit a suction strainer instead.
9) Start the engine, run it at low speed, loosen the air venting plug on the hydraulic pump and vent the air inside.
10) Check that there is no oil leakage through connections.
11) Refit the panel and the bracket of the guard at the top of the hydraulic pump. (See Fig.4 .)

3. REMOVAL AND INSTALLATION OF COUPLING

3.1 REMOVING COUPLING

1) Remove hydraulic pump assembly (1). (See Para. 2.1.)
2) Set bolt (27-7) of coupling hub (27-8) and take it off from the drive shaft of hydraulic pump assembly (1)
3) Remove socketscrew (27.5) by means of coupling hub (27-8), entering to pump drive shaft or using vice.
4) Remove insert MR (27-2). Then draw out spring pin (27-6), using pliers.

NOTE

Use the existing spring pin (27-6) as it is if it has no fault.

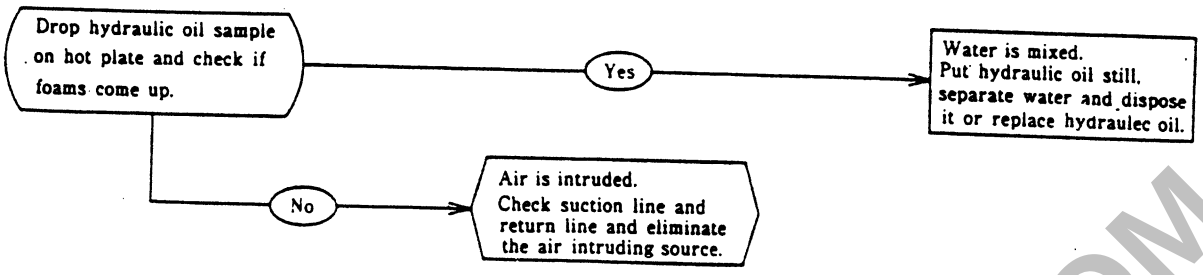
5) Remove socket bolt (27-4) on the engine flywheel side. Then detach insert (27-1).

PREVIEW - YOUFIXTHIS.COM

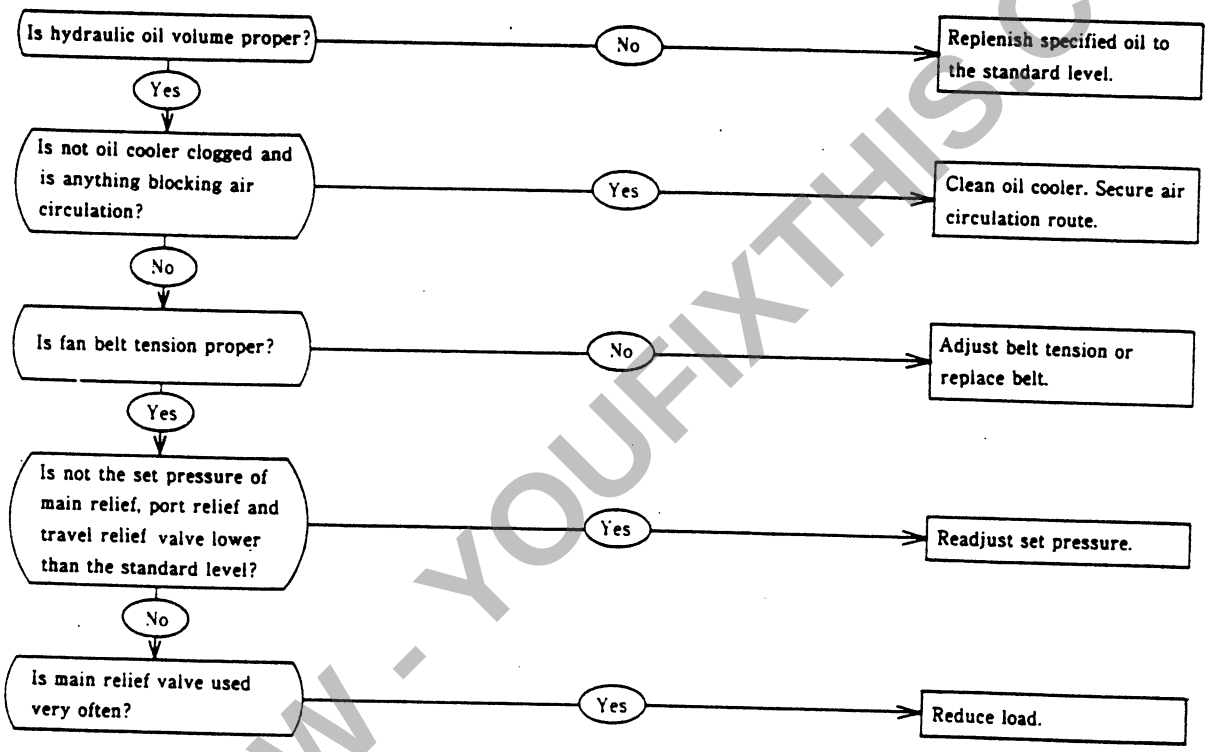
Download full manual at youfixthis.com

3. HYDRAULIC SYSTEM

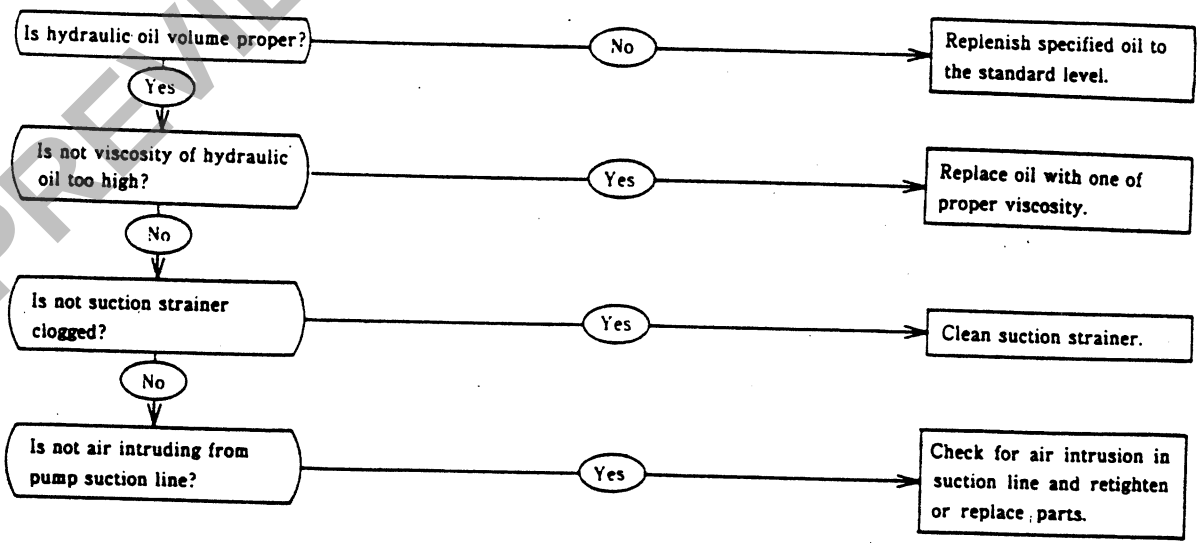
(1) Hydraulic oil is cloudy.



(2) Hydraulic oil temperature has risen abnormally.



(3) Cavitation occurs with pump.



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

8. ENGINE SPECIFICATIONS

1. Type	Mitsubishi 6D22-T
2. No. of cylinders	6
Dia. × Stroke	130mm × 140mm (5.1 in × 5.5 in)
3. Total displacement	11.149 ℓ (680 cuin)
4. Compression ratio	16
5. Output rating	
JIS D1005	230 PS/1,900 r.p.m
SAE J1349	169 kw/1,900 r.p.m
DIN 6270	230 PS/1,900 r.p.m
6. Max. torque	
JIS D1005	95kgf·m/1,400 r.p.m
SAE J1349	932 N·m/1,400 r.p.m
DIN 6270	95kgf·m/1,400 r.p.m
7. High idling	2,070 ± 20 r.p.m
8. Low idling	850 ± 30 r.p.m
9. Injection start pressure	220kgf/cm² (3129 psi)
10. Injection timing	Before top-dead center 76.5 ℃
	Full open 90℃
11. Ignition order	1-5-3-6-2-4
12. Compression pressure	28kgf/cm² (390 psi) (at 200 r.p.m)
13. Lube oil pressure	Rating 3—4 kgf/cm² (42.7—56.9 lbs/in²)
14. Fuel injection timing	17°C
15. Valve clearance (Cool)	0.4 mm (0.016 in)
16. Starter capacity	4.5 kw
17. Generator capacity	800 W (30A)
18. Super Charging type	Turbo type
19. Cooling fan drive method	φ800 (φ32 in) suction type
	Belt drive pulley ratio: 1.0
20. Engine oil volume	Engine body 25 ℓ (6.6 gal)
	Filter and other 4 ℓ (1.05 gal)
21. Dry weight	1,040 kg (2,292 lbs)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2.6 PERFORMANCE INSPECTION STANDARD

Table 1

(NOTE ; Take measurement in the S mode, unless otherwise specified.
The standard tolerance shall be an allowable range in field measurements.)

	Inspection item			Pressure measurement: Position	Port	Size	Basic value	Tolerance: Upper limit	Tolerance: Lower limit	Unit	Control	Measurement: Condition, function
Standard measuring condition	Cleanliness of hydraulic oil			Hydraulic oil in tank			8	-1	-1	Class	—	Takeout of sample
	Temperature of hydraulic oil			Tank surface			50	+5	-5	℃	—	Air temperature 30°—30℃
	Water temperature			Radiator surface			75	+15	-15		—	Air temperature 30°—30℃
	Rated engine revolution		LO	Injection pump No.1 fuel pipe			850	+50	0	RPM	C	LO throttle
			HI				2110	+20	-50		Adjustment not necessary	FULL throttle
		Decel	ON				1110	-20	-30		E	Decel sw on
Main circuit	Main relief pressure	Attach	RH	Pump	a 1	PF1/4	280 (3980)	+5 (+70)	0	kgf/cm² (psi)	RV1	Bucket digging
			LH		a 2						RV2	Boom hoisting
		Boost pressure (OPT.)	RH		a 1		320 (4550)	+20 (+280)	0		RV1	Bucket digging
			LH		a 2						RV2	Boom hoisting
		Travel	RH		a 1		350 (4980)	+5 (+70)	0		RV3	Sprocket
			LH		a 2						RV4	lock, 2-speed
	Port relief pressure	Boom	R	Pump	a 1	PF1/4	—	—	—		RV6	Boom lowering
			H				315 (4480)	+50 (+710)	+20 (+280)		RV5	Boom hoisting
		Boost. pressure (OPT.)	H				340 (4830)	+20 (+280)	0		—	Boom hoisting
			R		a 2		340 (4830)	+20 (+280)	0		—	Arm discharge
		Arm	R				315 (4480)	-50 (-710)	+20 (+280)		RV10	Arm discharge
			H								RV9	Arm digging
		Bucket	R		a 1		315 (4480)	-50 (-710)	+20 (+280)		RV8	Bucket discharge
			H								RV7	Bucket digging
		Swing	RH		a 2		265 (3770)	-35 (-500)	-25 (-360)		RV11	Bucket lock
			LH								RV12	
		Travel motor RH	Front		a 1		365 (5190)	+50 (+710)	+20 (+280)		—	Insert a proper lock into the 2-speed sprocket teeth on both sides.
			Back									
		Travel motor LH	Front		a 2							
			Back									
	Negative control pressure	Boom side			Pi 1		28 (400)	-22 (-310)	-8 (-110)		—	Measure with all operating levers in neutral position.
		Arm side			Pi 2							
Pilot circuit	Primary pressure	Discharge pressure		Pump	P 3	PF1/4	50 (710)	-3 (+40)	-3 (-40)		RV13	All operating levers neutral
	Secondary pressure	Boom		Control valve	PAb.PBb PAbS	PF3/8	50 (710)	+3 (+40)	-3 (-40)		—	At full stroke relief of circuits being measured
		Arm			PAa.PBa							
		Bucket			PAC.PBC							
		Swing			PiA.PiB							
	Secondary pressure for servo	Swing valve			P 7	PF1/8	40 (570)	+13 (+180)	0			Travel+attach
		LH/RH and neutral cut valve			P 8		40 (570)	+13 (+180)	0			Arm discharge relief
					P 9							Boom hoisting relief
	Secondary pressure for mode changeover	Mode H		Pump	a 3	PF1/4	0	+2 (+28)	0		Adjustment not necessary	Changeover to mode H
		Mode S					11.1 (158)	+2 (+28)	-2 (-28)			Changeover to mode S
		Mode F・C					11.1 (158)	+2 (+28)	-2 (-28)			Changeover to modes F and C
		Release					8.6 (122)	+5 (+71)	-1 (-14)			Change over release switch.
		ATT boost pressure (OPT.)					28.8 (410)	-3 (+43)	-3 (-43)			Heavy lift 「ON」

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

4. FUNCTIONAL DESCRIPTION OF HYDRAULIC CIRCUITS

4.1 TRAVEL CIRCUIT

4.1.1 OIL FLOW IN THE MAIN TRAVEL CIRCUIT

The amount of oil to be supplied to drive the travel motors of this machine differs with its single action or combined action with the attachment. The travel speed also differs with the single or combined action of the motor.

1) Single action of travel motors

All the oil volume supplied by the variable pump (P_1) is supplied to the RH travel motor, whereas all the oil from variable pump (P_2) is delivered to the LH travel motor.

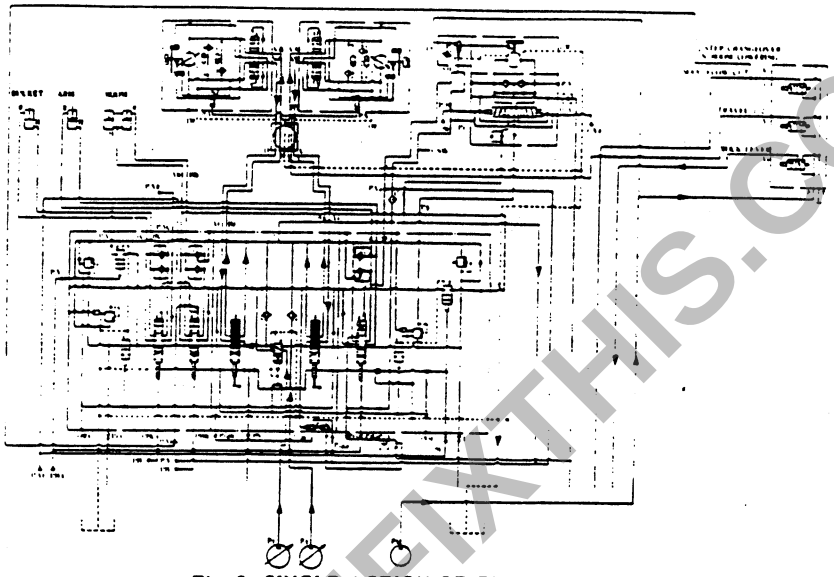


Fig. 3 SINGLE ACTION OF TRAVEL MOTORS

2) Compound operation of attachment and swing

Fig. 4 shows a simultaneous operation of travel and boom raising.

The oil from variable pump (P_2) goes to the RH and LH travel motors, while the oil from variable pump (P_1) is delivered for attachment and swing motions.

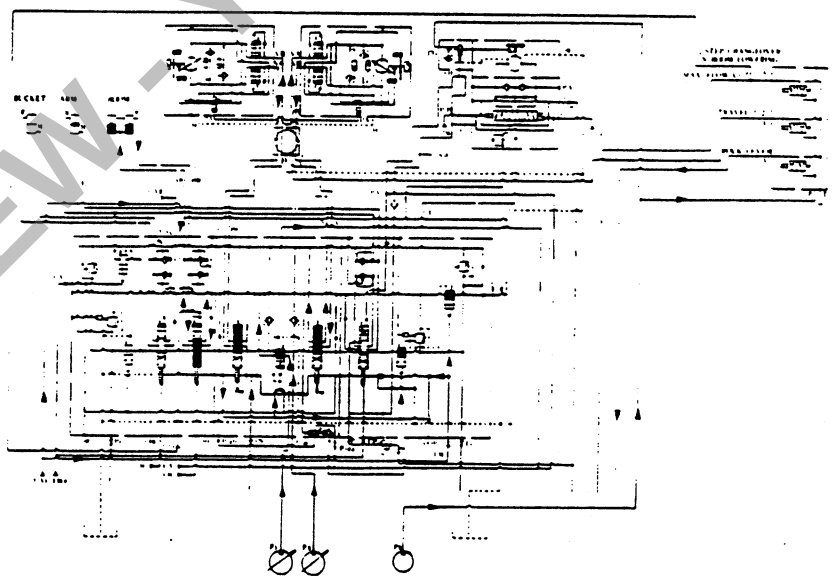


Fig. 4 SIMULTANEOUS OPERATION OF TRAVEL AND BOOM RAISING

The features of the travel circuit are that the travel section is located upstream of other valves and that it insures straight advance unaffected by other actions as the returned oil goes back to the tank port.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

9. MAINTENANCE STANDARDS

9.1 TIGHTENING TORQUE FOR LOWER MOUNTING

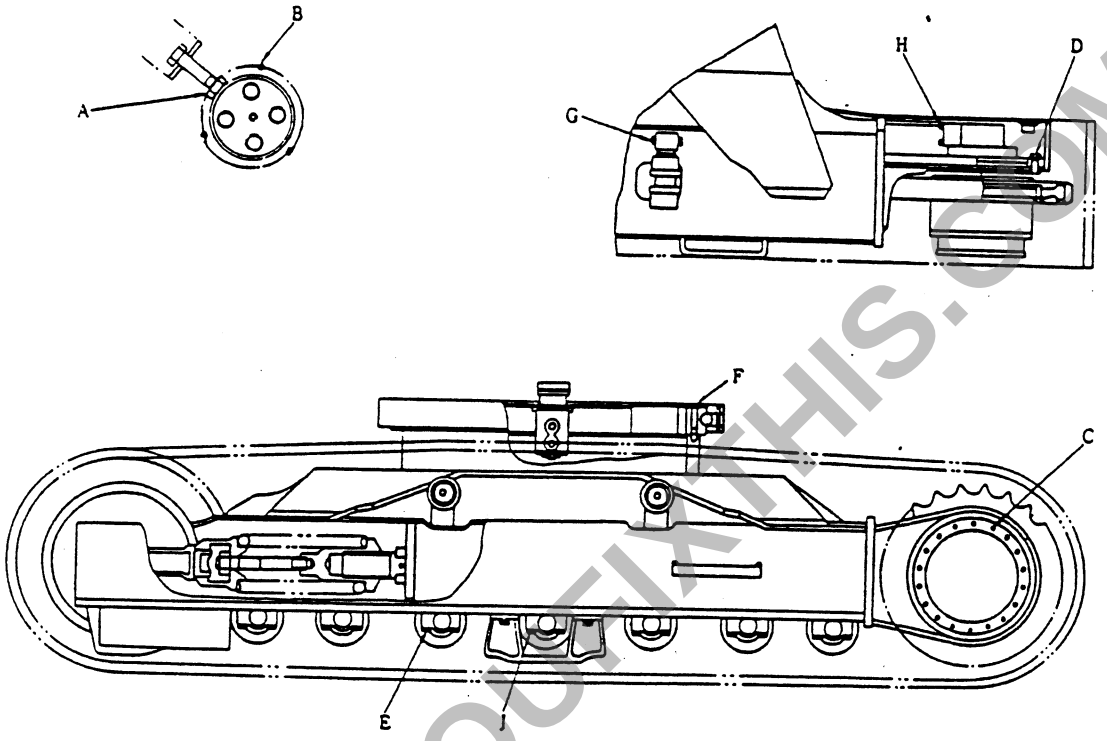


Fig. 52

Table 9

Unit:kgf.m(ft.lbs)

Symbol	Item	Standard Value	Remedy
A	For swivel joint fastening nut	16±2(115±14)	Apply Loctite #262 before fitting them
B	Swivel joint mounting capscrews	11±1(79.5±7.2)	Apply Loctite (locking compound) #242 and retighten.
C	For sprocket mounting capscrews	55±5.5(387±40)	
D	For reduction unit mounting capscrews	55±5.5(397±40)	
E	For lower roller mounting capscrews	74.5±7.5(538±54)	
F	For bearing mounting capscrews	74.5±7.5(538±54)	
G	For upper roller mounting capscrews	55±5.5(397±40)	
H	For propel brake valve mounting capscrews	7±1(※51±7)	Retighten.
J	For crawler track guide mounting capscrews	95±9.5(686±68.6)	Apply Loctite #262 before fitting them.

CAUTION

Pay special attention to ※ marked tightening torques which relate to the spool operation.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

3.2 INSTALLING COUPLING

1) Knock spring pin (27-6) into coupling hub (27-8).

NOTE

Drive in spring pin (27-6) to full depth.

2) Put coupling hub (27-8) into hydraulic pump assembly (1) and tighten set bolt (27-7) to a specified torque.
3) Attach insert (27-2) and tighten socket bolt (27-5) to a specified torque.
4) Install element (27-1) and bush (27-3) to the engine flywheel and tighten socket bolt (27-4) to a specified torque.
5) Attach hydraulic pump assembly (1) to the engine. (See Para. 2.2)

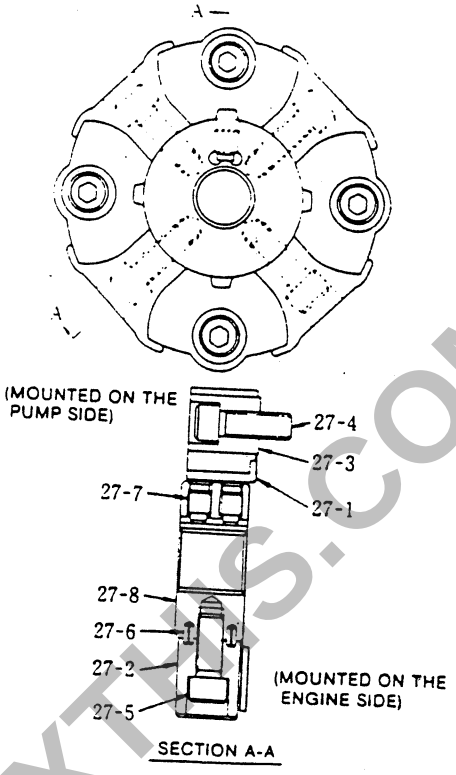


Fig. 8

4. REMOVAL AND INSTALLATION OF ENGINE

4.1 REMOVING RADIATOR

1) Remove the guards at the top, right and left of the engine and take off capscrews (44) fastening the right and left radiator stays.
2) Fit lifting metal into bolt hole (H) for the lifting hook at the top of the radiator and lift the radiator with a wire sling to the extent that it is just tensioned.
3) Take off capscrews (46) fastening fan guard (45) and remove the fan guard.
4) Loosen drain plug (47) of the radiator and drain out the cooling water of the engine and the radiator.
5) Disconnect all hoses between the engine and the radiator.
6) Desconnect the hose (53) between the reserve tank (52) and the radiator (5). Then draw out wiring coupler (54) under the raditor tank (52).
7) Loosen capscrews (56) of bracket (51) mounting reserve tank (52) and remove it.

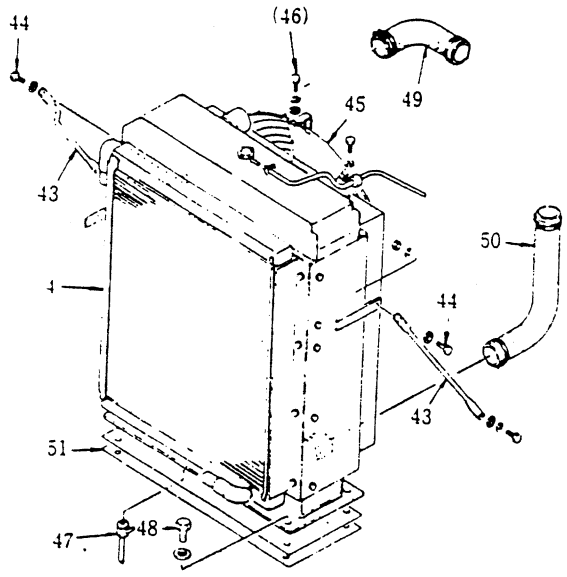
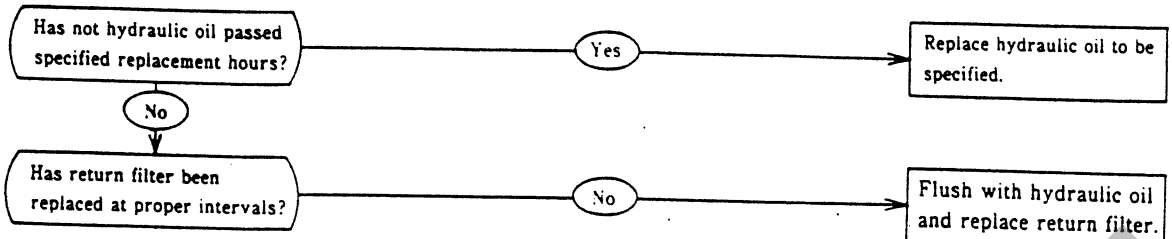


Fig. 9

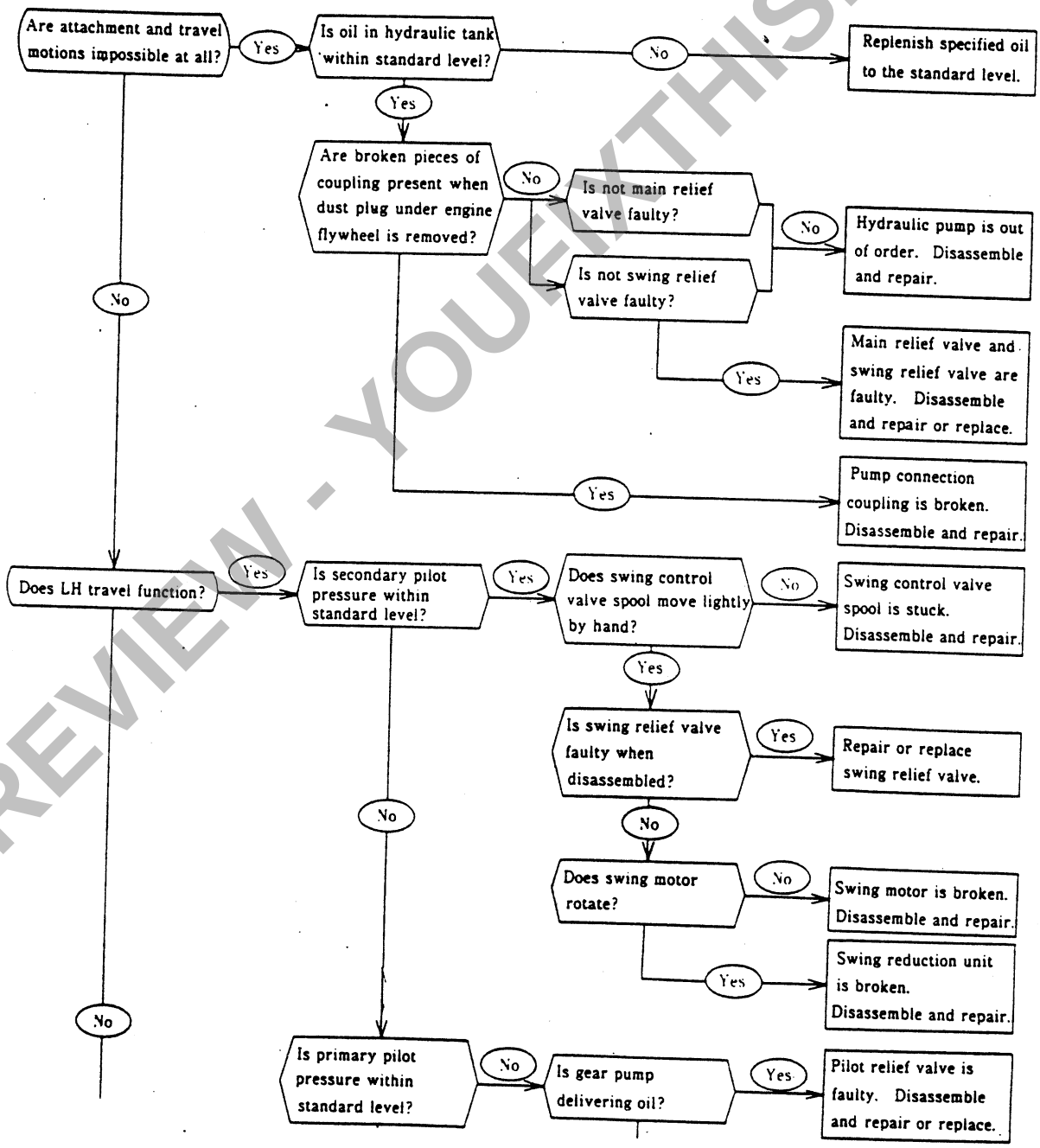
PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

(4) Hydraulic oil is contaminated.



4. SWING SYSTEM

(1) Both LH and RH swing actions are impossible.



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 18 of 454 pages

The full manual includes:

- All 454 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Mdi Yutani MD320B Shop Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual