YANMAR CO.,LTD.

	Solution No.				
Rev. No.	M1				
Drawing No.	G2-14120-0270				
Revision	(01/DEC/09)Registered by YDSLU-09167.				

M1(26/APR/10)The specifications are changed as follows.
(1)According to the EC Machinery Directive, we changed label.
(YDSLU-10011)

Messrs : EP BARRUS

Engine Specification

Model name	L48N6CJ1F7AABR （Design model ID : 714121B） （Production model ID : 114124B）
Type	4-stroke, vertical-cylinder, air-cooled diesel
Use for	Low pressure Water pump , Starting motor
Dev. Request No.	YI DEVREQ-168-2007

01 DEC. 2009

YANMAR CO.,LTD.

Sending to	
YI Engineering	1

Rev. No.	M1				
Drawing No.			G2-14120-0270		

Contents

Draw. No.	Part No.	Name	Qty.	Remarks
G2-14120-0270		Engine specifications Engine performance Details of specifications Special loose parts list	1	
B2-14120-0270		Outline	1	
① ~~G2-14120-2160~~ G2-14720-2180		Labels	1	
G2-14120-1010		Performance curve	1	
C2-14110-0010		Tools	1	
E2-14110-0020		Wiring	1	

Remarks :

Sebango Code:	**MH**	**PT**
Assy / B1:		
TB / C1:		
PACK / F1:		
Prod. Eng:		
Date:		

Power System Operations Division Engine Development Dept.
Application Engineering Dept.

Manager	Checked		Drawn
K. Hanki	T. Sasaki	Yamashita	R. Murakami

H. ogawa

Rev. No.	M1				
Drawing No.			G2-14120-0270		

1. Engine Specification

Model name			L48N6CJ1F7AABR
Combustion system			Direct injection
No. of cylinder-bore × stroke		mm	1-ϕ70×57
Displacement		liter	0.219
Output	Continuous	kW/min^{-1}	* 3.1 (4.2PS, 4.1HP) / 3600
	Maximum	kW/min^{-1}	* 3.5 (4.7PS, 4.6HP) / 3600
PTO Shaft	PTO position		Crankshaft
	Direction of rotation		Counterclockwise viewed from PTO side
Injection Timing (FIC-air)		deg.	16.5±1.0 bTDC
Fuel	Oil selection		Diesel fuel
	Tank capacity	liter	2.4
Lubricating system			Forced lubricating system
Lubricating	Oil capacity	liter	0.8 (effective, 0.25)
	Oil selection		SAE 10W30, API grade CD or higher
Cooling system			Forced air cooling by flywheel fan
Starting system			Starter motor with recoil starter
Governor			All speed type, mechanical
Balancer shaft			Single balancer shaft
Air cleaner			Wet type paper element filter
Exhaust silencer			Expansion silencer with cover
Generator (at 3600min^{-1})			Flywheel dynamo : 12V-15A
Dimensions		mm	Indication in outline drawing
Dry weight		kg	Approx. 32.0

* Output is given for normal atmosphere conditions and specs, which are defined as follows:
- Atmospheric pressure : 100kPa (750mmHg)
- Atmospheric temperature : 25℃ (298K)
- Relative humidity : 30%

[Notice] Spec of air cleaner is without pre-cleaner and pipe.

2. Engine Performance

Speed at no load	Minimum	min^{-1}	1200 or more	PTO Shaft (Without minimum idling speed adjust bolt. Adjustable figure by your end.)
	Maximum		3800±30	
Governor regulation	Instantaneous speed difference	%	8 or less	at continuous output
	Permanent speed change		5 or less	
	Recovery time	sec.	5 or less	
	Speed fluctuation	min^{-1}	30 or less	
Permissible angle of inclination	Continuous	deg.	20	
	Intermittent		30	Operation of up to 3 minutes
Lowest start temperature	Re-coil starting	℃	0	Without starting aid agent
	Electric starting		-10	
Noise level at continuous rating output (Mean of four direction)		dB(A)	91.5	at continuous output distance : 1m height : 0.5m with STD silencer on

Rev. No.	M1				
Drawing No.			G2-14120-0270		

3. Details of specifications Base model : L48N6CA1T1AA

System	Part Name	STD Spec.	Specification	Remarks
Fuel System	Pump, Fuel Injection	714139-51200	←	4NS, Left40° (Made in Yanmar FIE)
	Nozzle, Fuel Injection	714139-53200	←	Made in Yanmar FIE
	Fuel oil tank	11429C-55010	←	(Bm-a-3) 2.4L, Color:Yanmar Black C
	Tank stay (A	114299-55210	←	
	Tank stay (B	114299-55230	←	
	Fuel oil filter	NA	←	
	Fuel oil pipe, Return	114120-59300	←	For Yanmar FIE
	Fuel oil pipe, Pump	114780-59010	←	
	Fuel injection pipe	114120-59800	←	
	Cut-valve, Fuel oil	NA	←	
Lubricating System	Cap Assy., Lo supply	114299-01760	←	Cap assy. X2
	Cover, Lub. Oil pump	114299-32070	←	
	Filter, Lub. Oil	114299-35110	←	
	Oil pressure switch	NA	←	
Cooling System	Flywheel	114299-21590	←	(Dm-a-1)STD (DE type)
	Engine cover	114299-45210	←	(Dm-c-5)Cylinder cover only
	Case, Cooling Fan	11429C-45100	←	(Dm-b-1)STD, Color:Yanmar Italian gray
Electric System	Electric Regulator & Harness	114399-77560	←	For 12V-15A dynamo
	Air heater	NA	←	
	Dynamo Assy.	114399-78280	←	Output : 12V-15A
PTO & Flange	Crankcase cover	114299-01450	←	STD (D)
	Crank shaft	11429C-21050	←	(Fm-a-9)E-D type
	Key, Crank shaft	160642-21150	←	For E-D type, 4.7X30
Intake and Exhaust System	Air cleaner	①~~114250-12570~~ 114120-12550	←	(Gm-a-5)STD ① (W/O Label)
	Pre cleaner	NA	←	
	Intake bend	114771-12010	←	(Gm-b-4)STD
	Muffler	11429C-13500	114770-13551	(Gm-c-10)Low noise type
Starting System	Recoil starter Assy.	114299-76050	←	(Hm-a-3)STD, Recoil angle:R1
	Plunger, Starting	114299-76600	←	
	Starting motor	114362-77011	←	(Hm-b-1)STD, 12V-0.8kW
Speed Control System	Governor lever Assy.	114295-61170	←	2 lever type
	Control device Assy.	714210-66100	114210-66550	(Im-a-3)Friction plate type, ① W/ Pictorial label
	Spring, Regulator	114770-66010	←	SP : 1-B , Paint mark : NA
	Fuel limiter Assy.	114211-66600	←	For 3000/3600min^{-1}
Decomp. System	Remote decomp.	NA	←	
	Bonnet	114295-11951	←	(Lm-a-5)STD
Others	Cylinder block	11429C-01020	←	
	Cam shaft	11429C-14010	←	
	Balancer shaft	114771-28011	←	
	Flange	NA	←	
	Cover, Tiller	NA	←	
Standard Loose Parts	Key switch panel Assy.	①~~114351-77500~~ 114220-77500	NA	
	Connector	NA	114351-77520	
	Deflector	114299-13800	←	
	Orifice	NA	←	
	Tools	114299-92590	←	
	Operation manual	0ALN0-G00100	←	English
	Label, Hot surface	① 114220-07130	←	
Remarks	Fuel oil limiter	Locked by wire		
	High idle adjust bolt	Locked by wire		
	Lubricating oil	Not provided		
	Delivery style	Cardboard box		

Rev. No.	M1				
Drawing No.			G2-14120-0270		

4. Special Loose parts list

No.	Parts name	Parts code No.	Qty.	Remarks
1	Tank, Fuel oil	114650-55010-13	1	5.4L, Color:Yanmar Black
2	Pipe, Gauge	114650-55150	1	Assembled with fuel tank
3	Clamp, 7	114299-55450	2	Assembled with fuel tank, For Gauge
4	Stay, Fuel tank A	114252-55231	1	
5	Stay, Fuel tank B	114252-55241	1	
6	Label, Yanmar mark A	114299-07100	1	Assembled with fuel tank
7	Label, Caution	① ~~114210-07120~~ 114220-07100	1	Assembled with fuel tank
8	Label, How to start	① ~~114210-07130~~ 114220-07110	1	Assembled with fuel tank

NEED ○	.	PURCHASING SPECIFICATION	.	REQUEST FOR APPROVAL	.	DELIVERY DRAWING	.	INSPECTING STANDARD	.	QC-PROCESS

3RD ANGLE PROJECTION

GEN. TOL. 一般公差	OUTSIDE	INSIDE
DRAFT ANG. 鋳抜テーパ角	2/100	3/100
	3/100	

CAST WALL THICK 鋳肉厚	NOMINAL DIM.		5 TO	10 TO	18 TO	30 TO
	DIVISION	5 MAX	: 10	: 18	: 30	: 50
	SANDMOLD	±1.0	±1.5	±2.0	±3.0	±3.5
	SHELL	±0.8	±1.0	±1.5	±2.0	±2.0

L.-CAST 鋳造寸法	120 TO	250 TO	400 TO	800 TO	1600 TO
	120 MAX	: 250	: 400	: 800	: 1600	: 3150
	±1.5	±2.0	±3.0	±4.0	±5.0	±7.0
	±1.0	±1.5	±2.0	±3.0	±4.0	±6.0

L.-CHIP 削り					
	0.5 TO	: 6	±0.1	400 TO	:1000	±0.8
	6 TO	: 30	±0.2	1000 TO	:2000	±1.2
	30 TO	:120	±0.3	2000 TO	:4000	±2.0
	120 TO	:400	±0.5			

ANG.-CHIP 角度削り		
	10 MAX	±1DEG.
	10 TO : 50	±30MIN.
	50 TO :120	±20MIN.
	120 TO :400	±10MIN.
	400 MIN	± 5MIN.

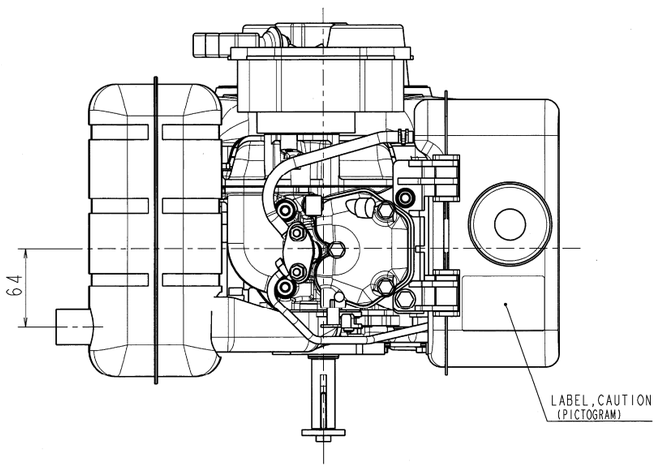
FIGURE DIMENSION

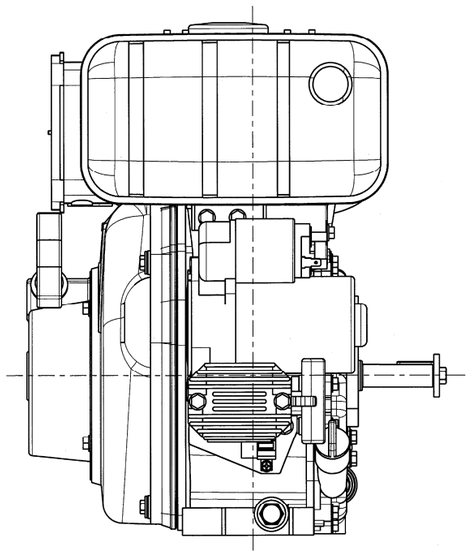
GT.CODE

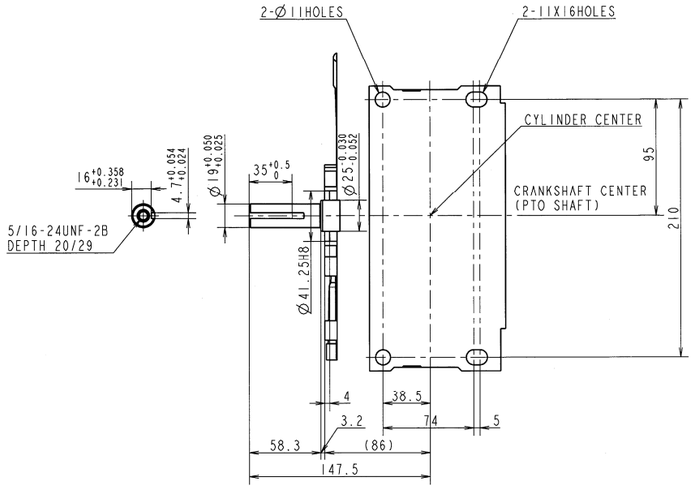
○ AND ⌭ : RADIAL

C A R E E R

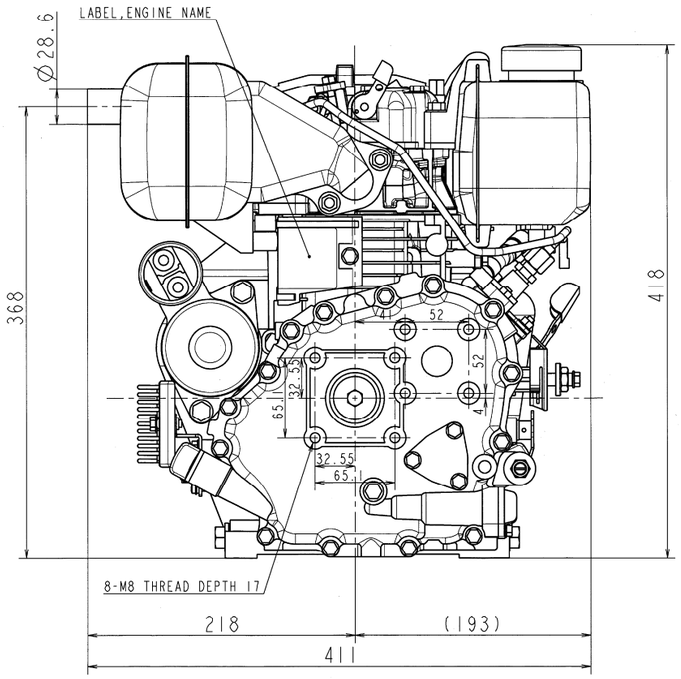
MI(26/APR/10)ACCORDING TO THE EC MACHINERY DIRECTIVE, WE CHANGED LABEL. (YDSLU-10011)(YDSLB-10044)

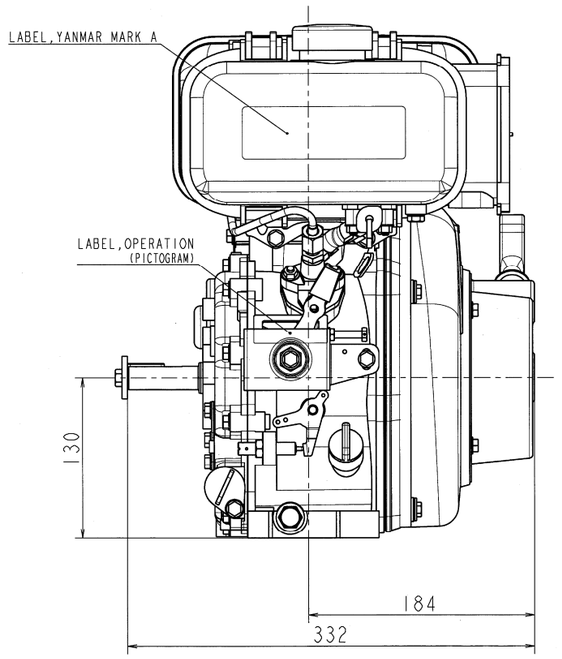


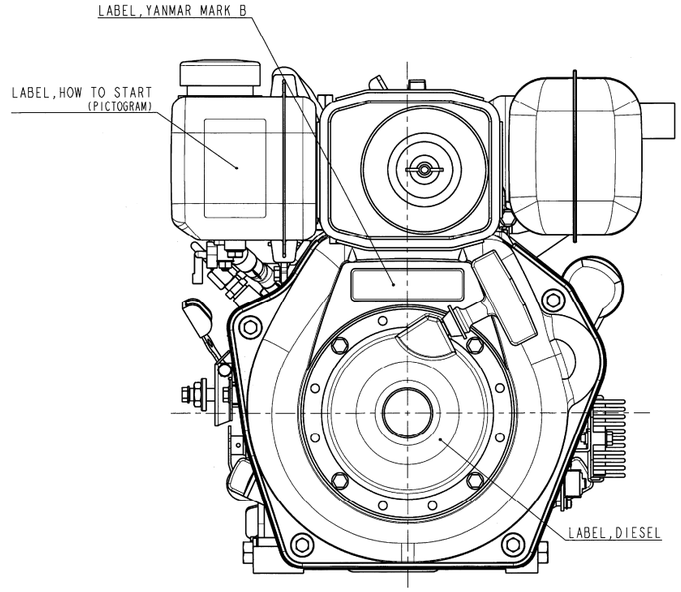


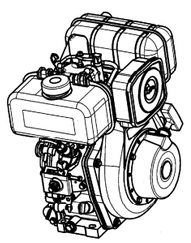


ENGINE MOUNTING PLATE AND PTO SHAFT SEEN THROUGH FROM THE TOP OF THIS ENGINE









| WEIGHT (RAW) | kg (± %) | | | | |

LABELS

G2-14720-2180

No.	LABELS	PLACE	CONTENTS
1	LABEL, ENGINE NAME	COVER, CYLINDER	-------
2	LABEL, YANMAR MARK (A	FUEL OIL TANK	THE FOLLOWING DETAILS
3	LABEL, CAUTION	FUEL OIL TANK	〃
4	LABEL, HOW TO START	FUEL OIL TANK	〃
5	LABEL, YANMAR MARK (B	CASE, COOLING FAN	〃
6	LABEL, DIESEL	RECOIL STARTER	〃
7	LABEL, OPERATION	REGULATOR HANDLE	〃
8	LABEL, HOT SURFACE	(LOOSE PART)	〃
9	LABEL, YANMAR MARK (A	FO TANK (LOOSE PART)	〃
10	LABEL, CAUTION	FO TANK (LOOSE PART)	〃
11	LABEL, HOW TO START	FO TANK (LOOSE PART)	〃

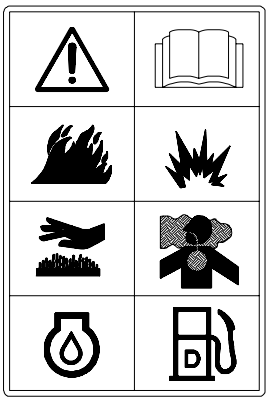
② LABEL, YANMAR MARK (A



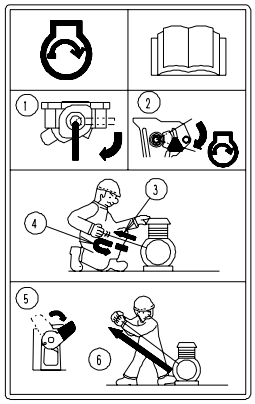
⑤ LABEL, YANMAR MARK (B



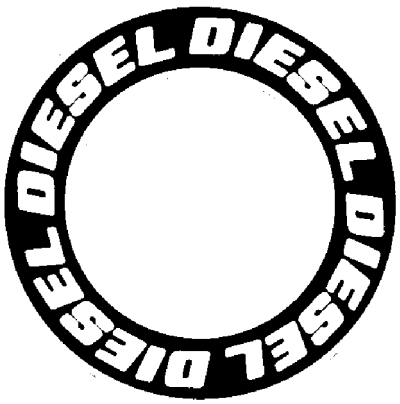
③ LABEL, CAUTION



④ LABEL, HOW TO START



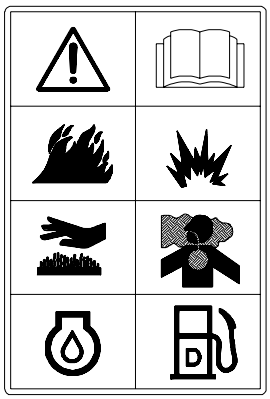
⑥ LABEL, DIESEL



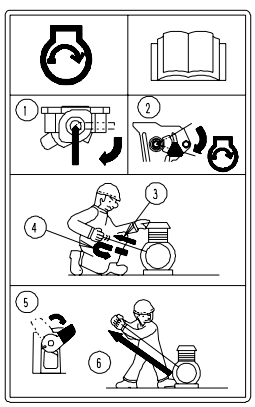
⑦ LABEL, OPERATION



⑩ LABEL, CAUTION (LOOSE PART)



⑪ LABEL, HOW TO START (LOOSE PART)



⑧ LABEL, HOT SURFACE(LOOSE PART)



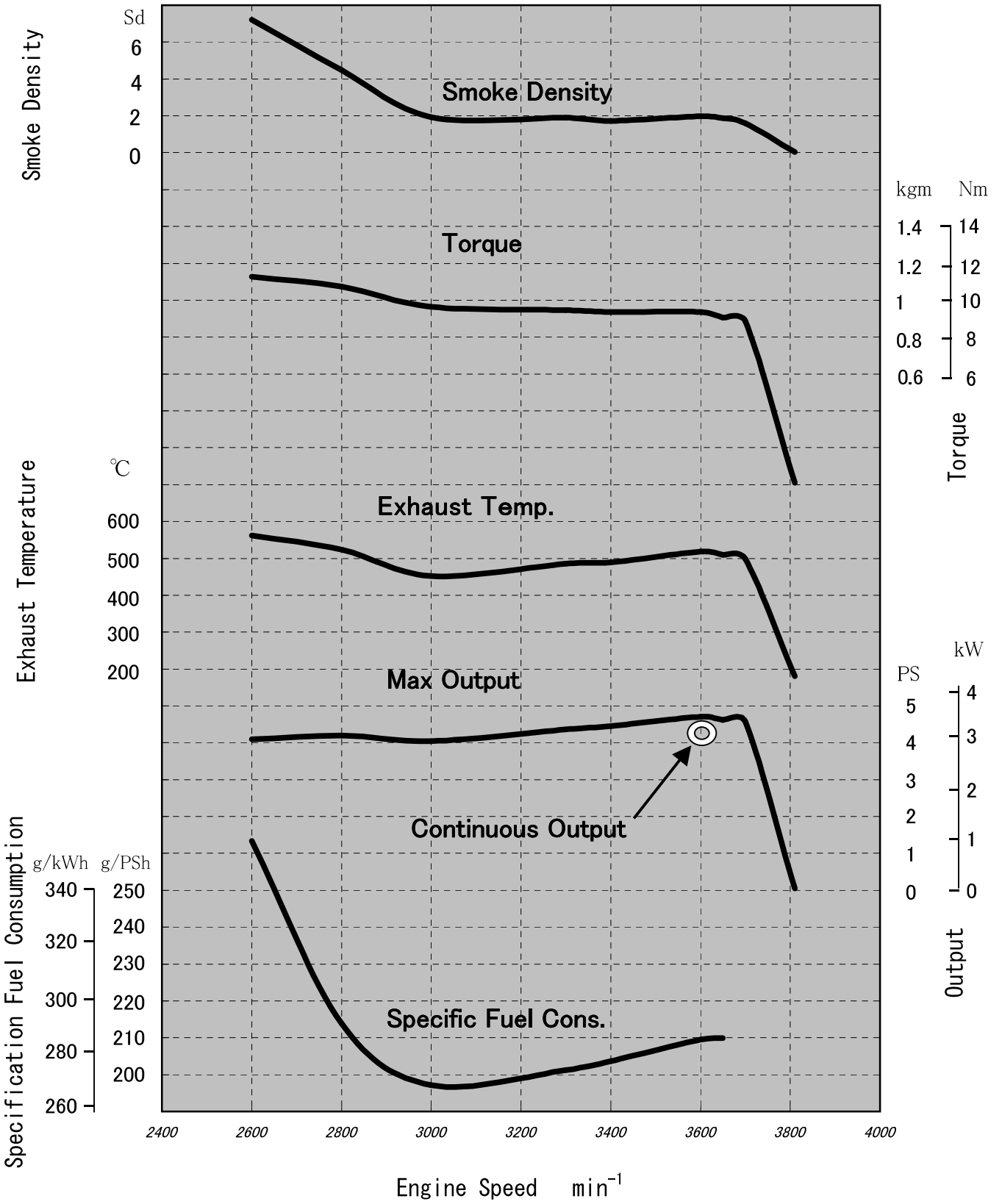
⑨ LABEL, YANMAR MARK (A (LOOSE PART)



PERFORMANCE CURVES

G2-14120-1010	M1

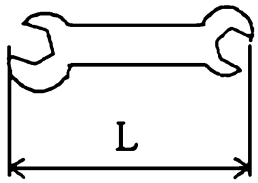
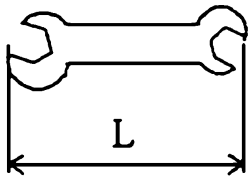
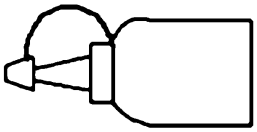
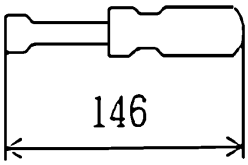
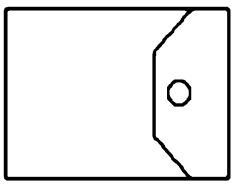
L 4 8 N 6



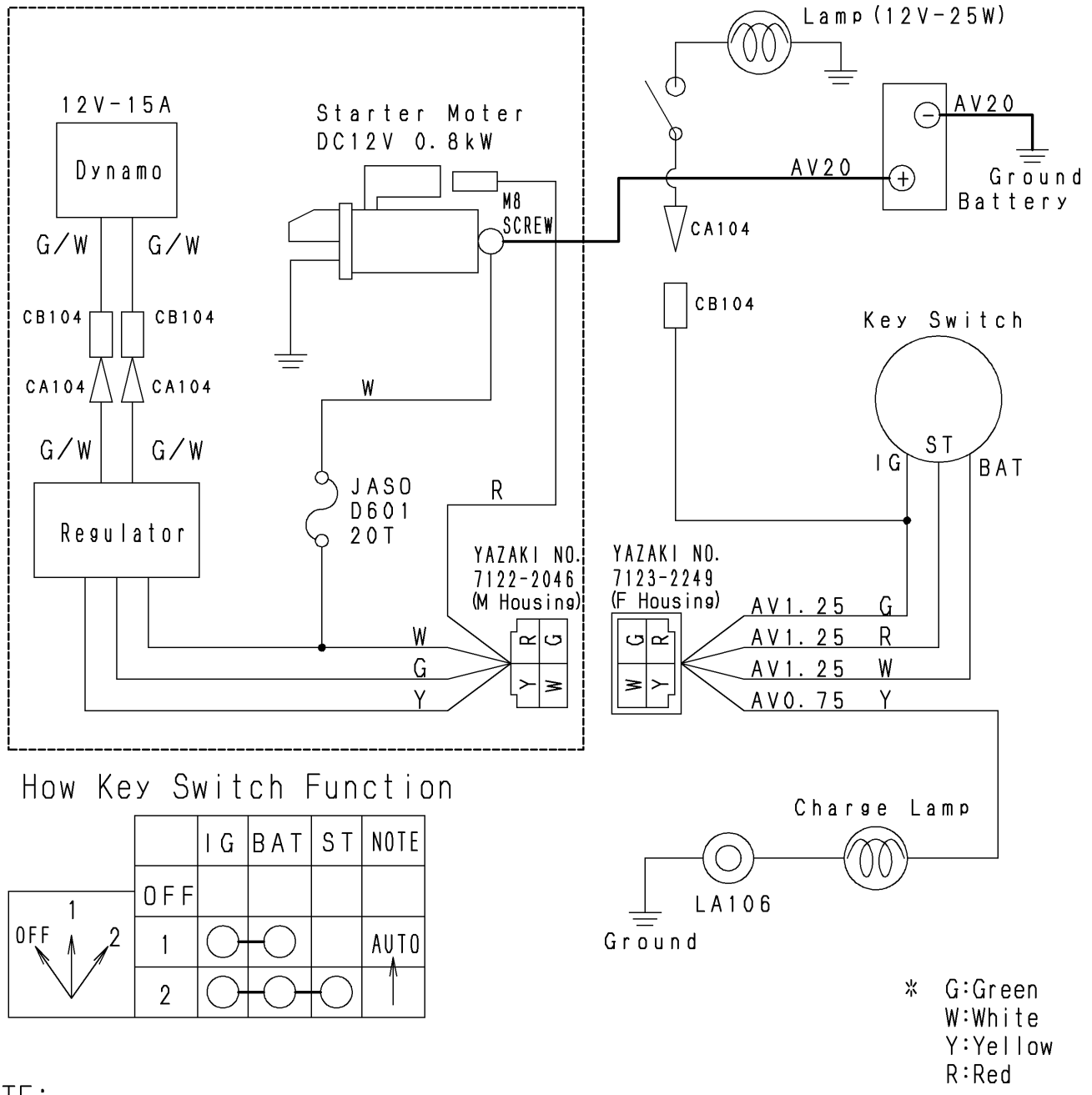
Notes : This performance is under the following condition.
After 30hrs. initial running
Atmospheric conditions : Temperature 298K(25℃)
Pressure 100kPa(750mmHg)
Humidity 30%

C2-14110-0010

標準工具　　ＴＯＯＬＳ

区分 ITEM		名称 DESCRIPTION	部品コード及び略図 PART NUMBER	材質 MATERIAL	個数 Q'ty	備考 NOTES
工具	1	両口スパナ WRENCH １４×１７	114299-92720 	UNI EN 10083/1 C40	1	L=163
	2	両口スパナ WRENCH １０×１２	114299-92710 	UNI EN 10083/1 C40	1	L=128
	3	油さし FEEDER,OIL	114299-92740 	合成樹脂 POLYETHYRENE	1	
	4	＋ーねじまわし SCREWDRIVER	114299-92730 	UNI EN 10083/1 C40 & 合成樹脂 PVC	1	
	5	工具袋 BAG,TOOL	114299-92600 	黒色ビニール PVC	1	

E2-14110-0020



* G:Green
W:White
Y:Yellow
R:Red

NOTE:

1. Be sure to ground both engine and engine-driven machine
2. Section enclosed with dotted square is pre-wired at Yanmar factory.
3. Locally procure
   1. key switch, and charge lamp
   2. battery (24Ah-36Ah)
   3. battery cable (AV20)
   4. lamp (12V-25W), switch and cable (AV1.25)