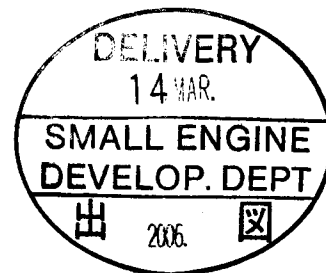


Messrs:

3TNV76-CS

SPECIFICATIONS & DRAWINGS FOR MASS PRODUCTION

10.Mar.2006



YANMAR CO.,LTD.

ENGINE SPECIFICATIONS

G3-19717-0130

No	Model name	3TNV76-CS		Remarks	
1	Type	4 cycle, Inline, Water-cooled Diesel			
2	No. of cylinders-Bore×Stroke	mm	3-φ76×82		
3	Combustion system	Indirect Injection			
4	Compression ratio	23.5			
5	Displacement	litter	1.116		
6	Rated output	kW(PS)	18.7(25.4)		
		min ⁻¹	3200		
7	Gross output	kW(PS)	19.9(27.1)		
		min ⁻¹	3200		
8	Max. torque	N·m	63.7~69.6		
		min ⁻¹	1920(+100/-100)		
9	Specific fuel consumption	g/kW-h(g/PS-h)	286(211)	at rated output	
10	Ambient condition	25°C, 750mmHg, 30%			
11	Engine speed at no load	Max.	min ⁻¹ 3400	+25/-25	
		Min.	min ⁻¹ 1000	+25/-25	
12	Governability	Governor type	centrifugal-all speed governor		
		Temporary	%	max.12	load 100% ↓ 0%
		Permanent	%	max.6	
		Recovery time	sec	max.6	
		Stability	min ⁻¹	max.30	
13	Gradients	Longitudinal	deg 30(25)	intermitted	
		Lateral	deg 30(25)	() : continuous	
14	Firing order	1-3-2-1		order from F.W.	
15	Direction of rotation	counterclockwise		viewed from F.W.	
16	Engine dry weight	kg	approx.120		
17	Fuel injection timing	deg	FID 20°	b.T.D.C	
18	Fuel system	Fuel type	Diesel oil		
		Fuel injection pump	Bosch in-Line(ML), Yanmar made		
		Fuel injection nozzle	hole type		
		Fuel filter	paper element		
19	Lubrication system	System	forced feed		
		Oil grade	SAE class CD, IPE grade 10W30		
		Oil pump	trochoid pump		
		Oil filter	paper element		
		Oil capacity	litter	3.4	max.
			litter	1.6	effective.
		Oil pressure	kgf/cm ²	3.5	at rated output
kgf/cm ²	1.3		at low idle		
20	Cooling system	Heat exchanger	none		
		Pressure cap	kgf/cm ²	0.9	
		Fan	7-φ335		
		Coolant capacity	litter	0.9	

3TNV76-CS

ENGINE SPECIFICATIONS

G3-19717-0130

No	Model name	3TNV76-CS	Remarks
21	Air cleaner	install	
22	Breather system	closed	
23	Muffler	install	
24	Starting system	Starter	12V-1.1kW
		Battery	55B24
		Starting aid	glow plug(super quick glow)
25	Generator	12V-40A	
26	Engine color	Silver	
27	Applied regulation	EPA/ARB-OR/EC	

< Career >

Messrs :

W.No.

3TNV76-CS

3TNV76-CS

NV1 Series Power Pack Spec(Standard/Option)

●Engine Mount ○Loose Parts

3TNV70

Model Name	Standard/Option	Radiator	Engine Foot	Air Cleaner (FW)	Silencer	Speed Controller	Panel	Electric
3TNV70-HB	Standard	●	●	●				○
3TNV70-HBS	Option 1	●	●	●	○			○
3TNV70-HBSC	Option 2	●	●	●	○	●		○
3TNV70-HBSP	Option 3	●	●	●	○		○	
3TNV70-HBSCP	Option 4	●	●	●	○	●	○	
3TNV70-HBC	Option 5	●	●	●		●		○
3TNV70-HBCP	Option 6	●	●	●		●	○	
3TNV70-HBP	Option 7	●	●	●			○	

3TNV76

Model Name	Standard/Option	Radiator	Engine Foot	Air Cleaner	Silencer	Speed Controller	Panel	Electric
3TNV76-GA	Standard	●	●	●	●			○
3TNV76-GAC	Option 1	●	●	●	●	●		○
3TNV76-GAP	Option 2	●	●	●	●		○	
3TNV76-GACP	Option 3	●	●	●	●	●	○	

Model Name	Standard/Option	Radiator	Engine Foot	Air Cleaner (FW)	Silencer	Speed Controller	Panel	Electric
3TNV76-GB	Standard	●	●	●				○
3TNV76-GBS	Option 1	●	●	●	○			○
3TNV76-GBSC	Option 2	●	●	●	○	●		○
3TNV76-GBSP	Option 3	●	●	●	○		○	
3TNV76-GBSCP	Option 4	●	●	●	○	●	○	
3TNV76-GBC	Option 5	●	●	●		●		○
3TNV76-GBCP	Option 6	●	●	●		●	○	
3TNV76-GBP	Option 7	●	●	●			○	

NV1 Series Power Pack Spec(Standard/Option)

3TNV76

Model Name	Standard/Option	Radiator	Engine Foot	Air Cleaner (FW)	Silencer	Speed Controller	Panel	Electric
3TNV76-HB	Standard	●	●	●				○
3TNV76-HBS	Option 1	●	●	●	○			○
3TNV76-HBSC	Option 2	●	●	●	○	●		○
3TNV76-HBSP	Option 3	●	●	●	○		○	
3TNV76-HBSCP	Option 4	●	●	●	○	●	○	
3TNV76-HBC	Option 5	●	●	●		●		○
3TNV76-HBCP	Option 6	●	●	●		●	○	
3TNV76-HBP	Option 7	●	●	●			○	

Model Name	Standard/Option	Radiator	Engine Foot	Air Cleaner	Silencer	Speed Controller	Panel	Electric
3TNV76-CS	Standard	●	●	●	●			○
3TNV76-CSC	Option 1	●	●	●	●	●		○
3TNV88-CSP	Option 2	●	●	●	●		○	
3TNV88-CSCP	Option 3	●	●	●	●	●	○	

-GAOpen type 4P Generator -GBSilent type 2P Generator
 -HBSilent type 2P Generator -CS Indust Pack

Model Name

Example: 3TNV76-GB S C P

Silencer Speed Controller Panel

MARK	COLOR
B	Black
W	White
R	Red
L	Blue
G	Green
Y	Yellow
Br	Brown
Lg	Light Green
Sb	Sky blue
O	Orange
P	Pink
Gr	Gray
R/W	Red/White

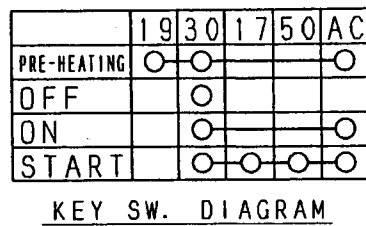
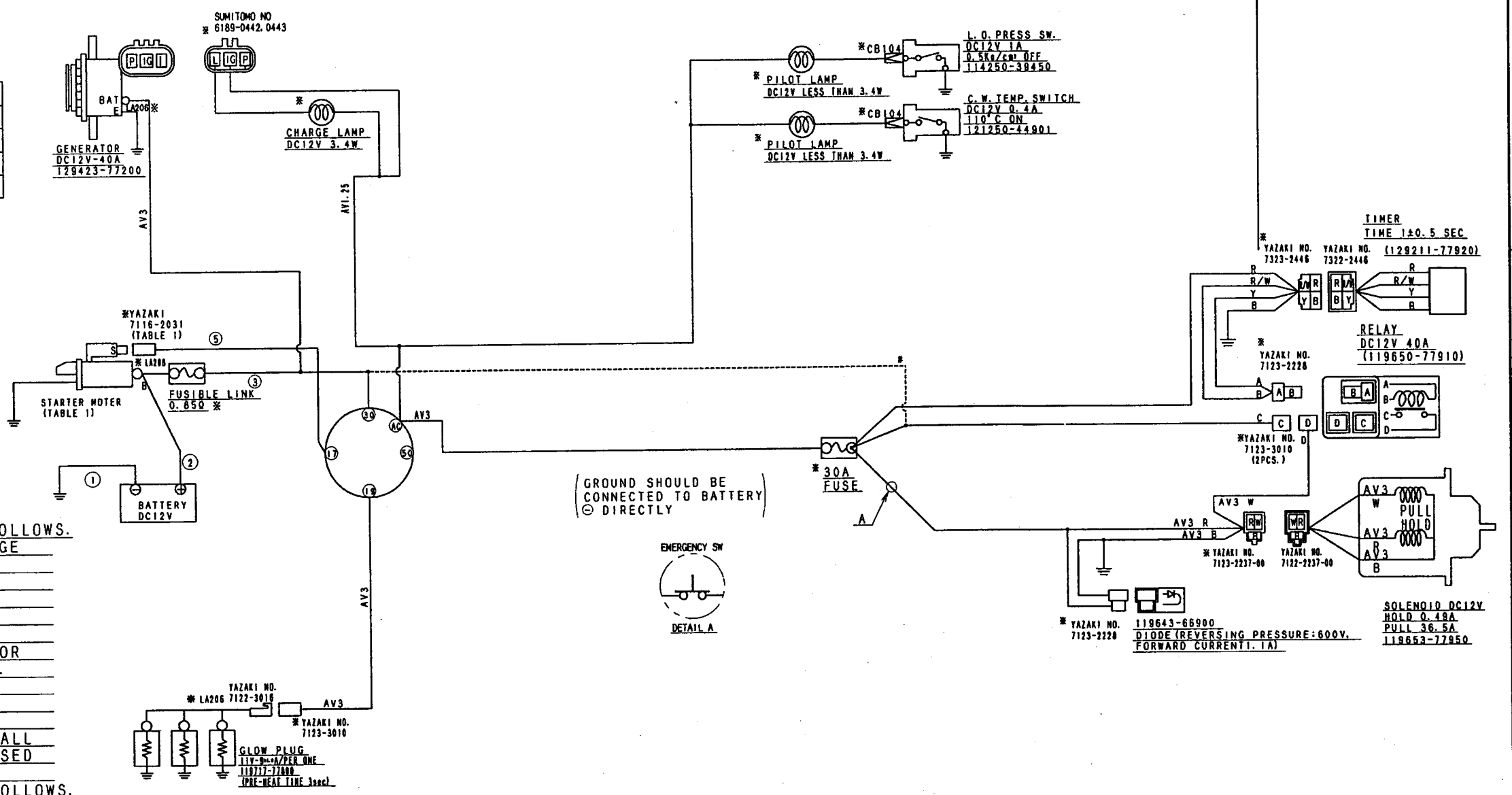


TABLE 1

MODEL	STARTER
3TNV70-HB	DC12V-1.0kW 119515-77010
3TNV76-GA, GB -HB -CS	DC12V-1.1kW 119717-77010

- NOTES
1. WIRING OF STARTER MUST BE OBSERVED AS FOLLOWS. OTHERWISE IT CAUSES MIS-STARTING OR DAMAGE OF STARTER MOTOR.
 - 1-1. TOTAL ELECTRIC RESISTANCE OF BATTERY CABLE (①+②) SHOULD BE LESS THAN 2/1000Ω. REFERENCE: AV15: ≦1.4m, AV20: ≦2.2m, AV30: ≦3.8m, AV40: ≦4.6m
 - 1-2. TOTAL ELECTRIC RESISTANCE OF WIRING FOR STARTER (③-⑤) SHOULD BE LESS THAN 5/1000Ω. REFERENCE OF TERMINAL RESISTANCE: 15/1000Ω PER COUPLER, 0Ω PER SCREW SETTING
 - 1-3. BATTERY EARTH CABLE (①) CONNECTION SHALL BE ENSURED. PAINTED SURFACE MAY NOT BE USED (FOR EARTHING) AVOIDING THE MISS CONTACT.
 2. BATTERY TREATMENT MUST BE OBSERVED AS FOLLOWS. OTHERWISE IT MAY CAUSE BURNING OF ELECTRIC EQUIPMENTS OR COMPONENTS. ALTERNATOR (DIODES) BURNING CAUSED BY BATTERY CABLE CONNECTION REVERSELY IS NOT WARRANTED.
 - 2-1. BATTERY SHOULD BE FIXED BY FITTING. (NOT TO MOVE)
 - 2-2. BATTERY CABLE LENGTH SHOULD BE ADJUSTED PROPERLY AND CLAMPED NOT TO BE CONNECTED REVERSELY.
 - 2-3. NOT LOOSE THE BATTERY CABLE TERMINAL, NOR TURN THE BATTERY SWITCH OFF DURING THE ENGINE RUNNING.
 3. ONLY THE SPECIFIED LOAD SHOULD BE APPLIED ON THE ALTERNATOR "L" AND "P" LINE. IT IS NOT ALLOWED TO CONNECT ANY LOAD UNSPECIFIED WITHOUT YANMAR APPROVAL.
 4. CHECK ANY SURGE CURRENT OR VOLTAGE OCCURED UNDER NORMAL OPERATIONS AND EXPECTIVE ERRONEOUS OPERATIONS, AND CONFIRM THE CIRCUIT NO SURGE OCCURS. ESPECIALLY PROVIDE THE FLYWHEEL DIODE FOR "C-LOAD" AND DIODE FOR "L-LOAD".

REMARKS
1. * MARKED PARTS ARE NOT PROVIDED BY YANMAR.

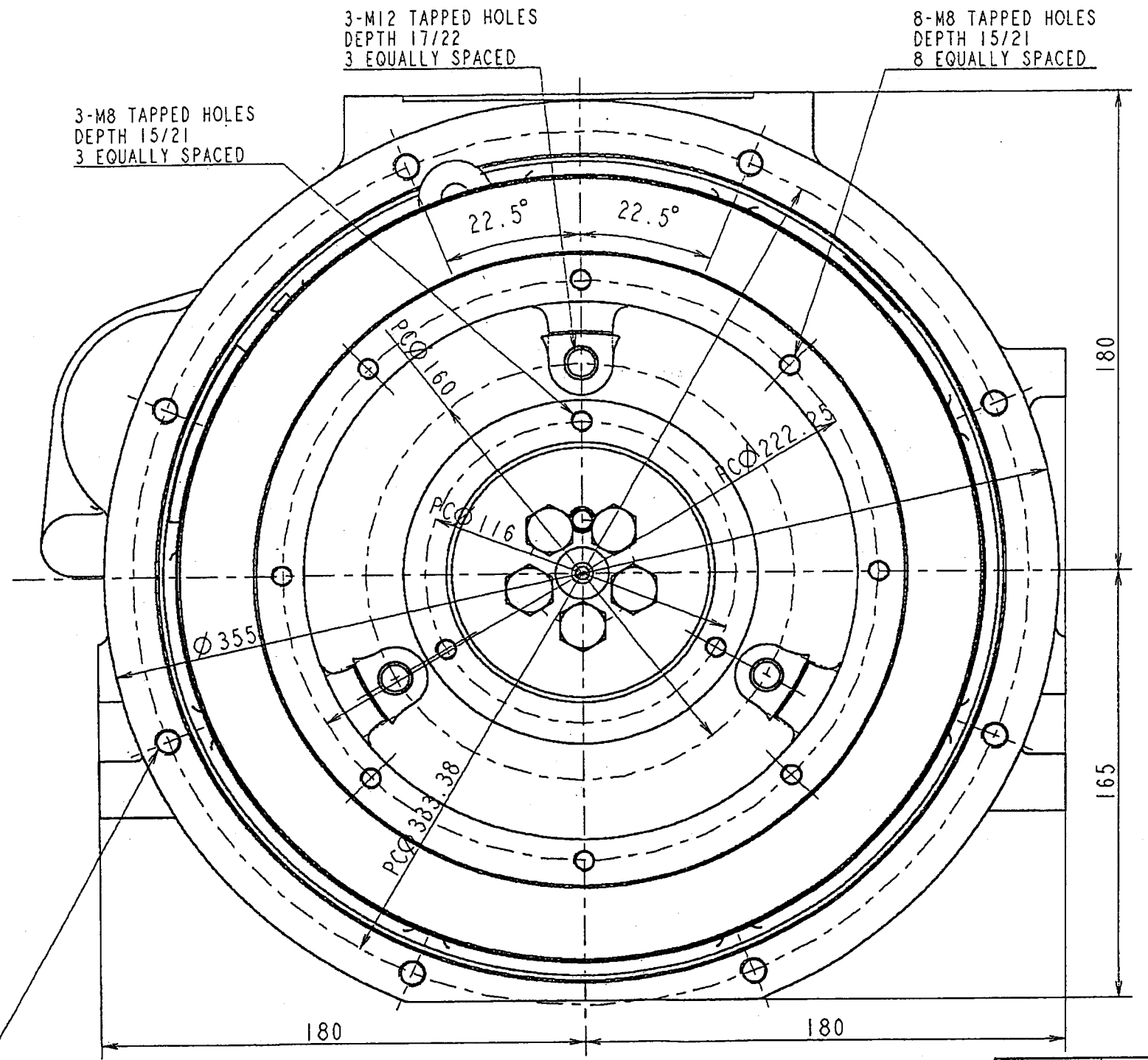
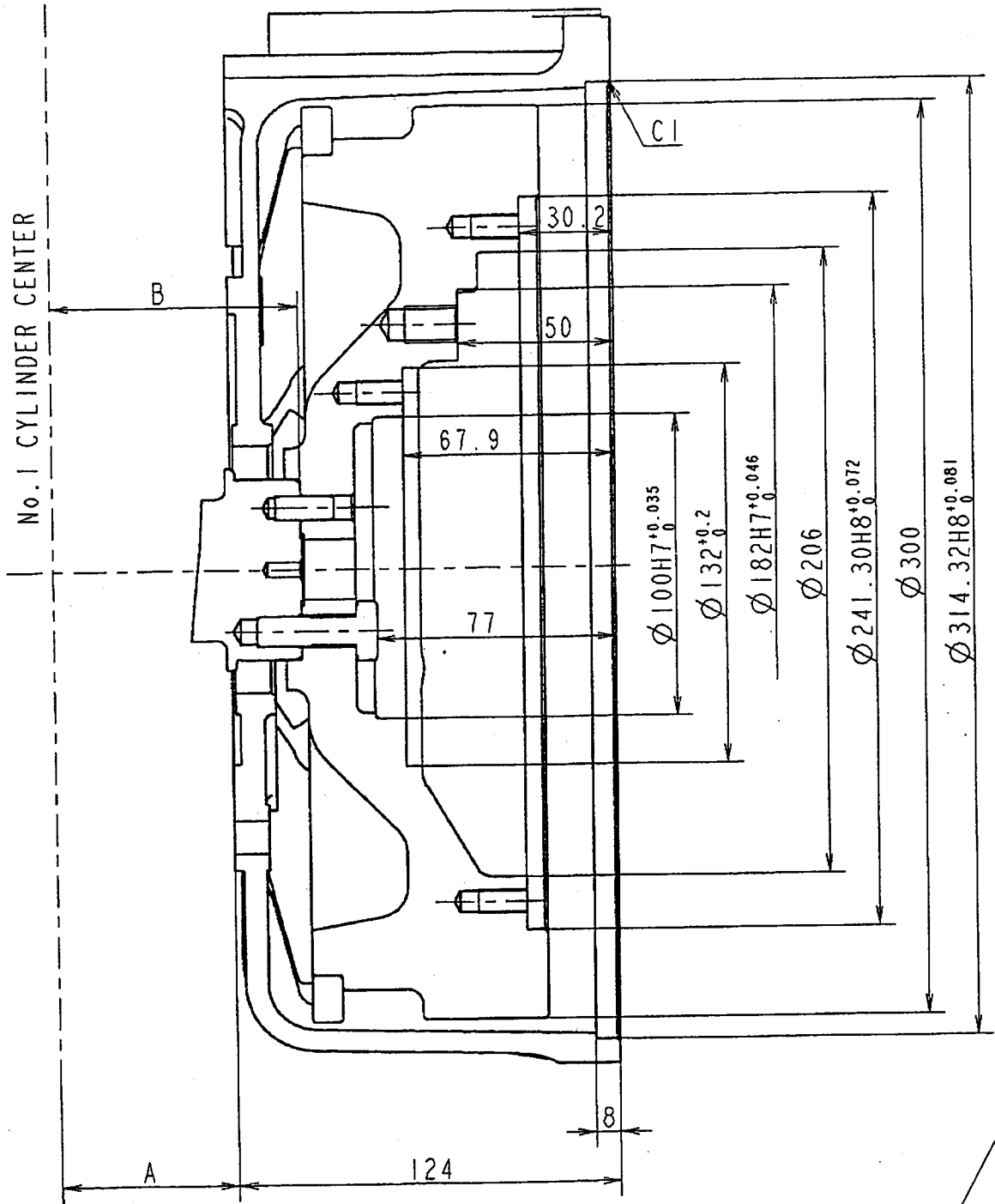


- NOTES FOR ENGINE STOP SOLENOID
1. PERMISSIBLE RESISTANCE OF SOLENOID CIRCUIT SHOULD BE LESS THAN 0.07Ω TO GUARANTEE PERMISSIBLE LOWEST VOLTAGE 9V TO WORK SOLENOID (PULL COIL). (TERMINAL RESISTANCE: 15/1000Ω PER COUPLER, 0Ω PER SCREW SETTING. COUPLER RESISTANCE OF SOLENOID DOESN'T NEED TO BE COUNTED) REFERENCE: AV2 (0.0088Ω/m): ≦8.0m... WITHOUT TERMINAL RESISTANCE, AV3 (0.0056Ω/m): ≦12.5m... SAME AS ABOVE. WHEN YOU EXCEED PERMISSIBLE RESISTANCE, ADOPT THE CIRCUIT IMPRESSED FROM THE POWER SUPPLY TO THE SOLENOID DIRECTLY USING A RELAY... REFER TO #
 2. HIGH TEMPERATURE PARTS, SUCH AS AN EXHAUST PIPE, SHOULD NOT APPROACH FOR THE PULL POWER FALL OF SOLENOID, AND HEATING PREVENTION OF INNER COIL TEMPERATURE. (PERMISSIBLE AMBIENT TEMPERATURE: -30~100°C)
 3. INSTALL FUSE TO PROTECT THE HARNESS AGAINST TROUBLES SUCH AS SHORT CIRCUIT OR CONTINUOUS DRIVE OF PULL-COIL.
 4. THE POWER SUPPLY OF SOLENOID MAY NOT BE COMMON WITH THE LINE OF ALTERNATOR INITIAL EXCITATOR AS SHOWN IN THIS DRAWING. (OTHERWISE, SOLENOID MAY LOOSE STOP FUNCTION DUE TO THE POWER SUPPLY FROM ALTERNATOR "L" TERMINAL.)
 5. IN CASE OF WATERPROOF CONNECT OR APPLICATION, CONNECTOR SHOULD BE FIXED BY FITTING TO PREVENT LEAD WIRE BREAK.
 6. IN CASE OF EMERGENCY STOP OF MACHINE FOR SAFETY WILL BE APPLIED, SWITCH LOCATION SHOULD BE SHOWN AS A.
 7. IN CASE OF THE SOLENOID CIRCUIT RESISTANCE WOULD BE LIMIT, # WIRING IS APPLICABLE.

水圧試験 HYDRAULIC TEST	MPa ()	小形工 開発部	部長 G. MANAGER	技部長 MANAGER
空圧試験 PNEUMATIC TEST	MPa ()	7/26		
主 席	長 SEC. MANAGER	機種 MODEL	3TNV 70-HB 3TNV 76-GA, GB 3TNV 76-CS	尺 度 SCALE
検 査 CHECKED	機能担当者 SPECIALIST	個 数 DTY.	1 1 1 1	材 質 MATERIAL
設 計 DESIGNED	製 図 DRAWN	年 月 日 DATE	2006.3.10	名 称 NAME
M. Akei	I. Kondo	ゲッセンズ		WIRING DIAGRAM
YANMAR CO., LTD.				図 面 番 号 CODE
ENGINE PRODUCT OPERATIONS DIV.				E3-19746-0010

重要227
規格/標準/記号
等 類 記号
真直度
真円度
輪 形
平 面 度
円 筒 度
面 形
平 行 度
直 角 度
傾 斜 度
位 置 度
同 軸 度
對 稱 度
同 軸 度
全 幅 寸 法

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



8-M10 TAPPED HOLES
DEPTH 14/20
8 EQUALLY SPACED

3D-CAD

NOTICE	
GEOMETRICAL TOLERANCE	
KIND OF TOLERANCE	SYMBOL
STRAIGHTNESS TOLERANCE	—
CIRCULARITY TOLERANCE	○
PROFILE OF LINE TOLERANCE	⌒
FLATNESS TOLERANCE	▭
CYLINDRICITY TOLERANCE	⊘
PROFILE TOLERANCE OF SURFACE	⌒
PARALLELISM TOLERANCE	∥
PERPENDICULARITY TOLERANCE	⊥
ANGULARITY TOLERANCE	∠
POSITIONAL TOLERANCE	⊕
CIRCULARITY OR STRAIGHTNESS TOLERANCE	⊙
SYMMETRY TOLERANCE	≡
CIRCULAR RUN-OUT TOLERANCE	↻
TOTAL RUN-OUT TOLERANCE	↻

MODEL	DIMENSION A	DIMENSION B	FLYWHEEL HOUSING	FLYWHEEL CMP	FLYWHEEL
3TNV70	54	76	119717-01610	119746-21570	119746-21410
3TNV76	57	79	↑	↑	↑

WEIGHT (RAW)	kg
(± x)	
WEIGHT (CALC.)	0.000kg
(± x)	

CHECKED	SPECIALIST
DESIGNED	DRAWN
横井	中川

DATE: Y.M.D
2003.11.27

SEC. MANAGER	CAREER
山田	

MODEL	3TNV70	3TNV76
QTY	1	1

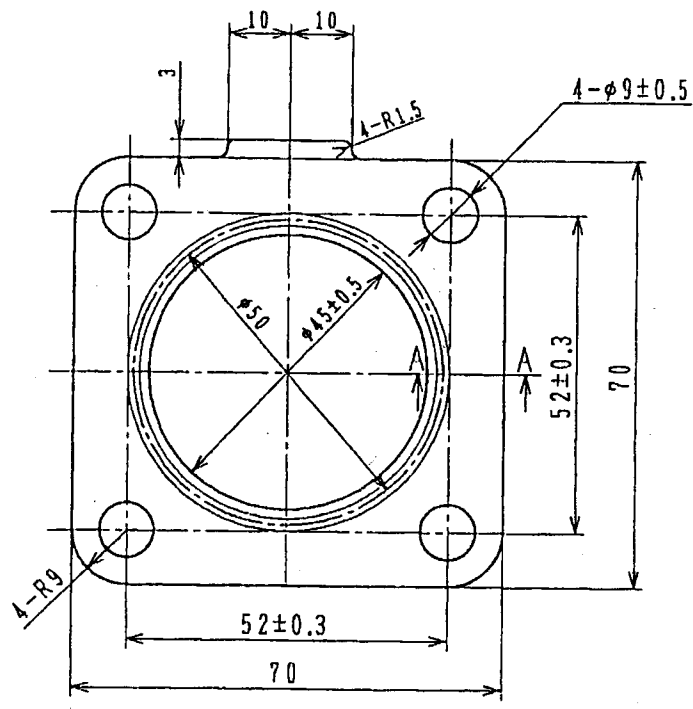
NAME: COUPLING SAE #5

YANMAR
YANMAR CO., LTD. ENGINE PRODUCT OPERATIONS DIV.

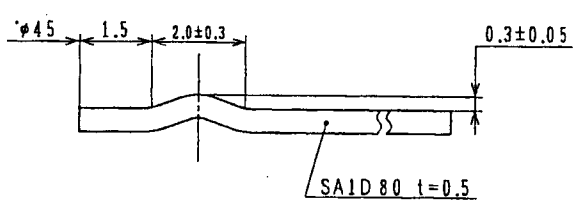
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MANAGER	SEN. MANAGER
小形工藤秀郎	山田

SCALE	1:2
MATERIAL	

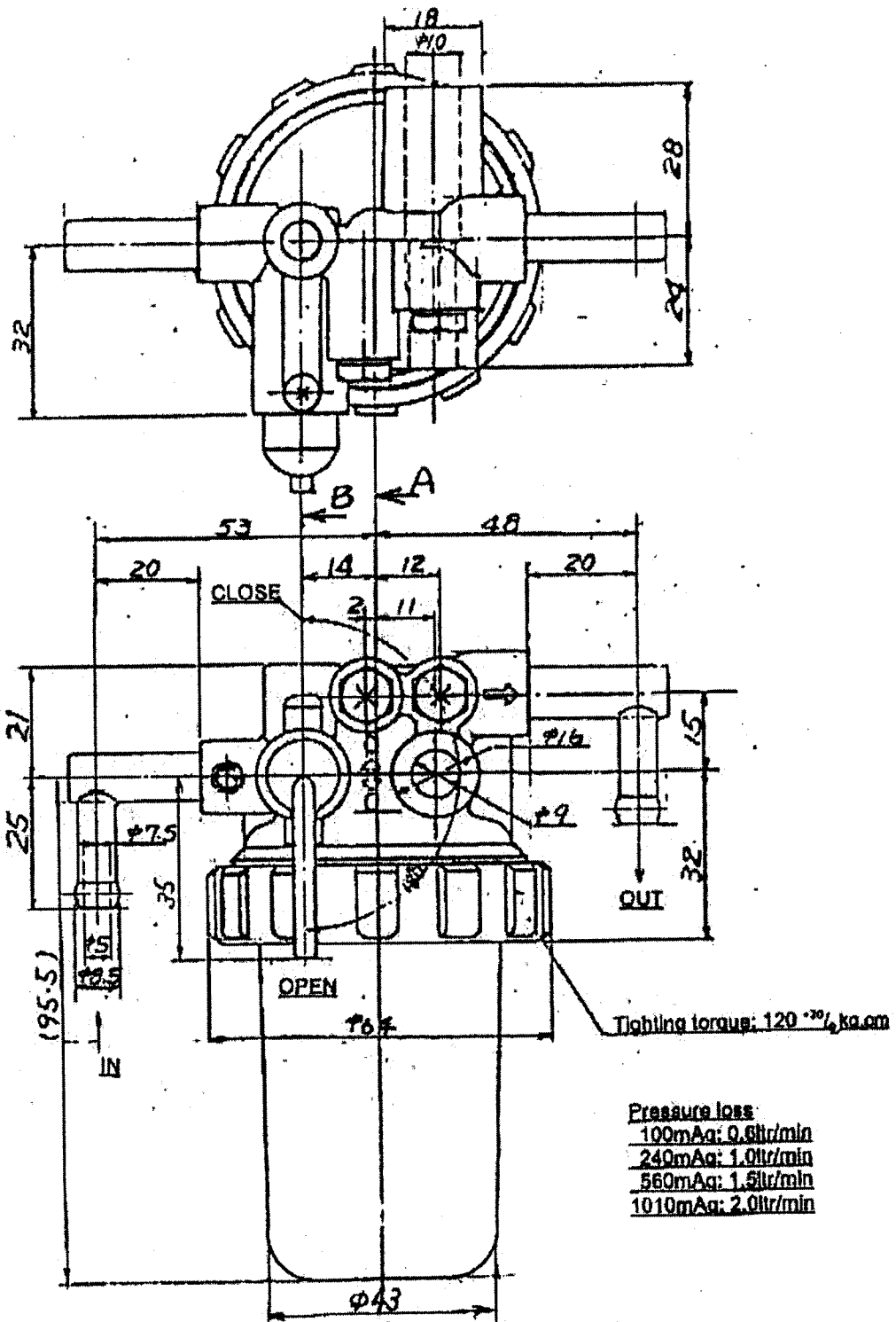


A-A 10:1

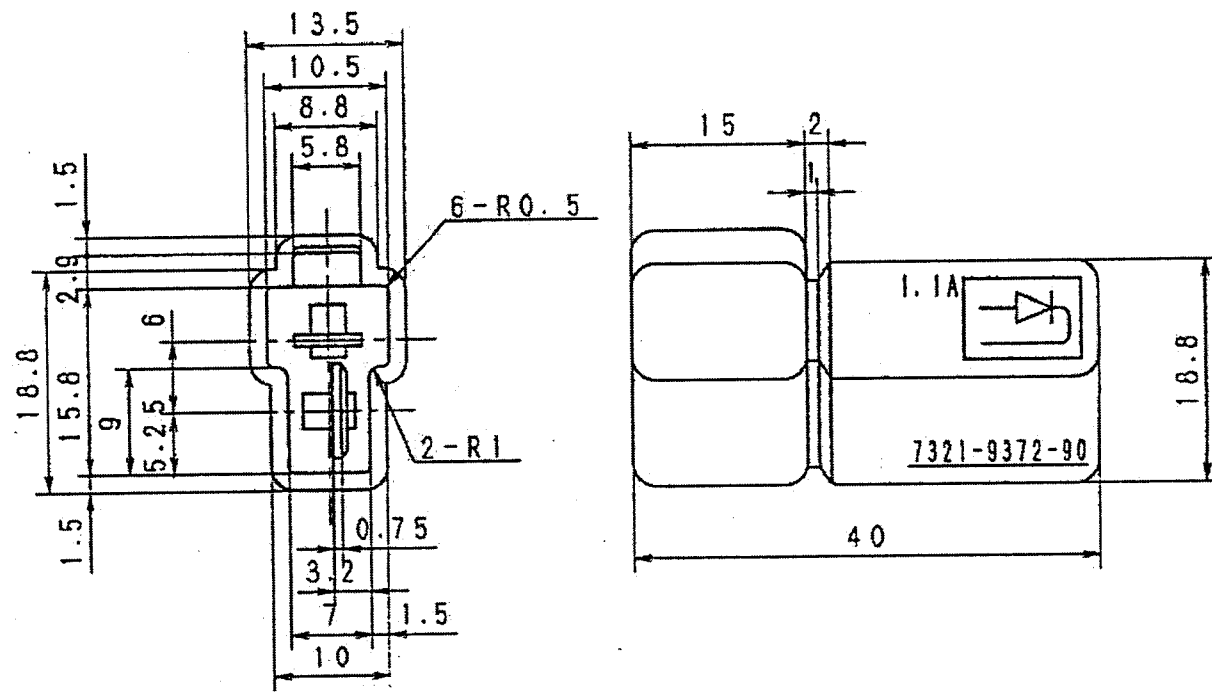


MATERIAL : SA1D80 t=0.5

YANMAR CO., LTD	
部品名称 PART	Gasket,Silencer
PART No.	119515-13200

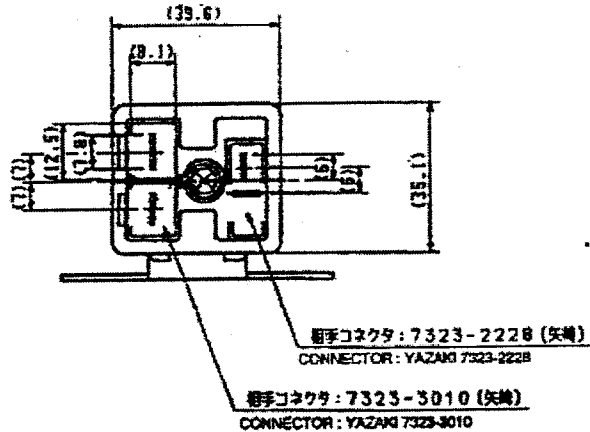
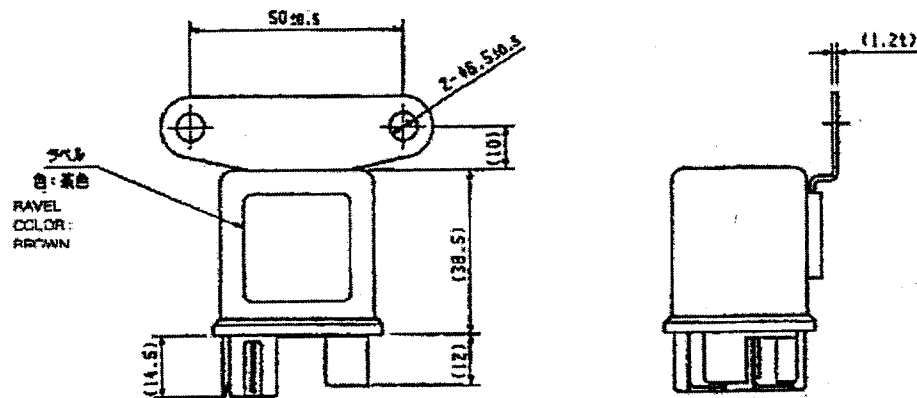


YANMAR CO., LTD	
部品名称 PART	Separator Assy
PART No.	129335-55700



Mate coupler : 7123-2228
Mate terminal : 7116-2090

YANMAR CO., LTD	
部品名称 PART	DIODE
PART No.	119643-66900



仕様

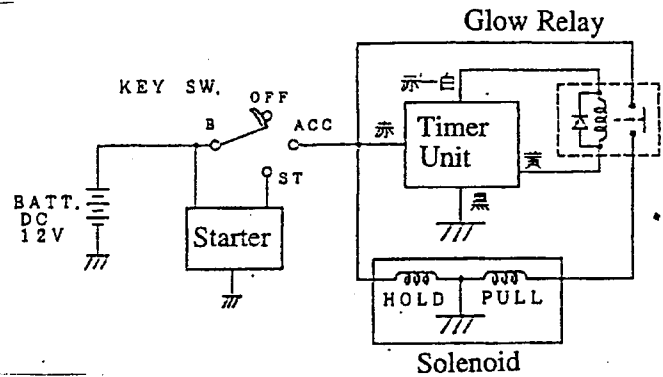
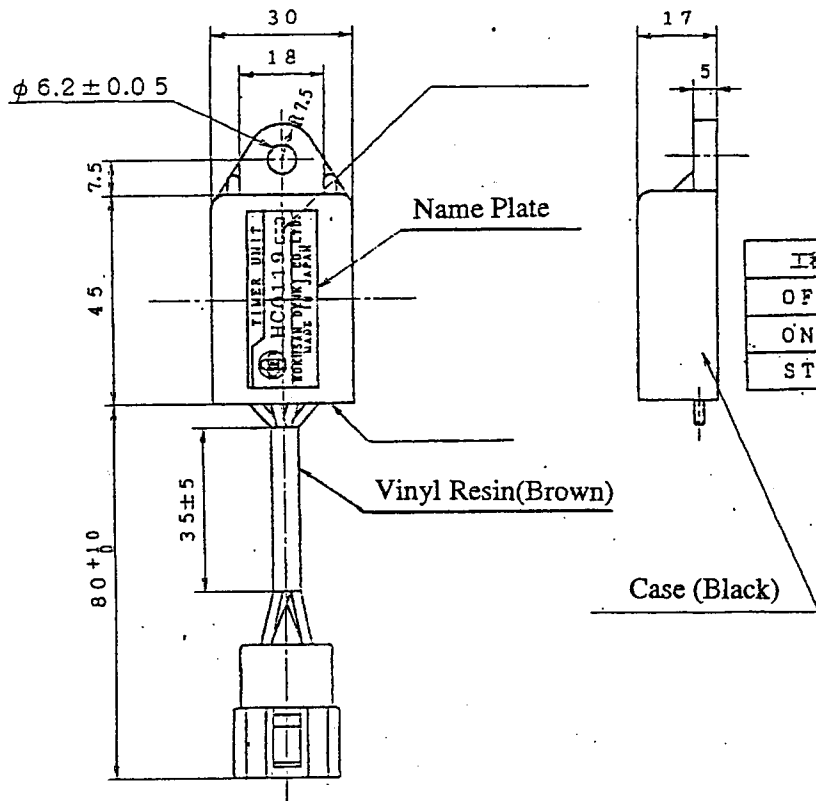
1. 定格電圧 : DC12V
2. 連続定格 : 10 MIN.
3. コイル抵抗値 : 37Ω
4. インダクタンス : 66mH (at 1kHz)

SPECIFICATIONS

1. RATED VOLTAGE : DC12V
2. MAXIMUM OPERATING TIME : 10 MIN.
3. COIL RESISTANCE : 37 ohm
4. INDUCTANCE : 66mH (at 1kHz)

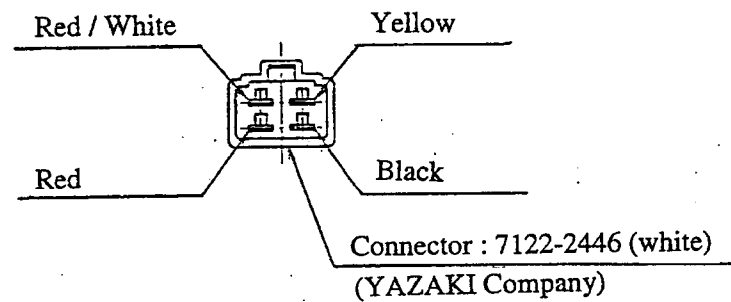
YANMAR CO., LTD	
部品名称 PART	RELAY
PART No.	119650-77910

3D-CAD



工番	B	ACC	ST
OFF			
ON	○	○	
ST	○	○	○

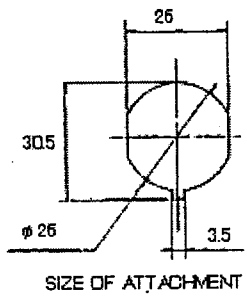
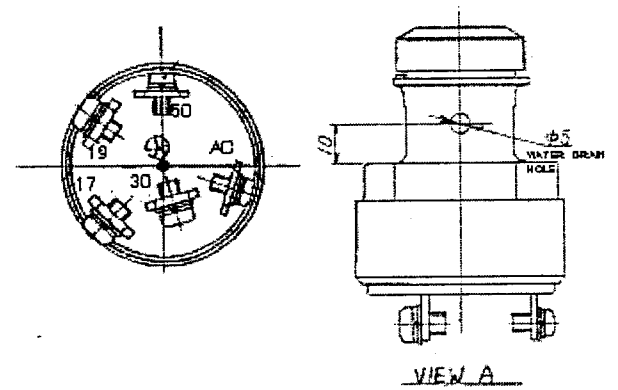
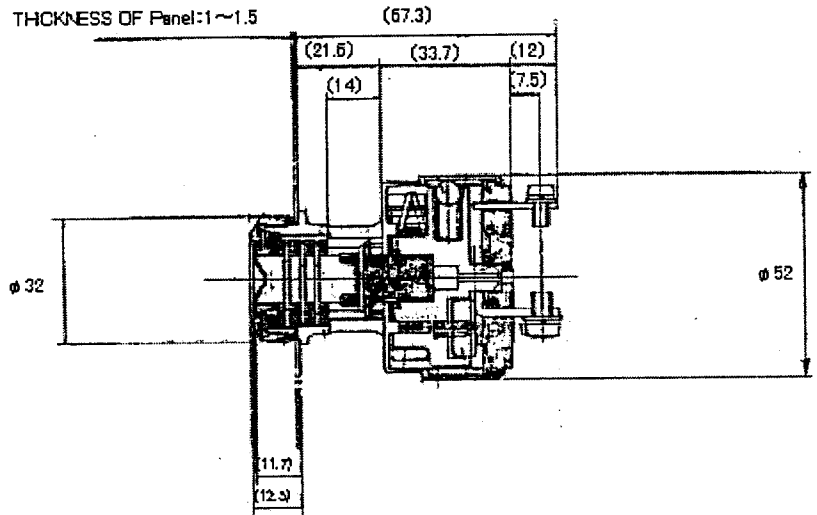
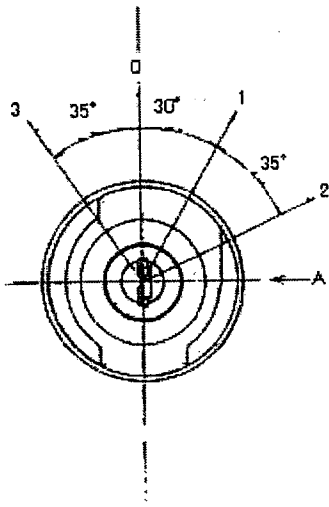
項目	動作シーケンス
Key Switch	OFF → ON → ST
Glow Relay	OFF → ON (1.0 ± 0.5秒) → OFF
Solenoid Pull	OFF → ON → OFF
Solenoid Hold	OFF → ON
Starter	OFF → ON



TIMER (1sec)
 タイマー (1sec)

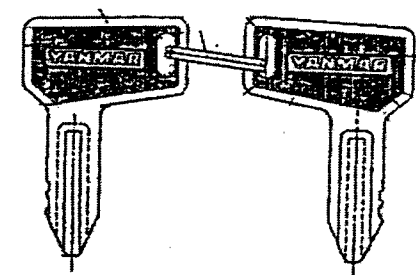
YANMAR
 ENGINE PRODUCT OPERATIONS DIV., YANMAR CO., LTD.

CODE 129211-77920

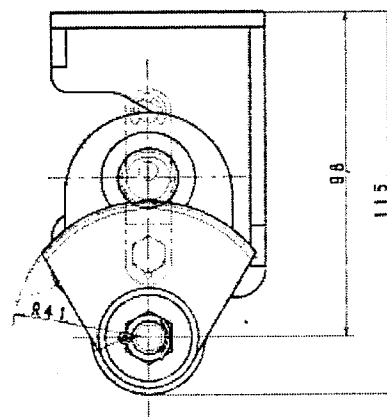
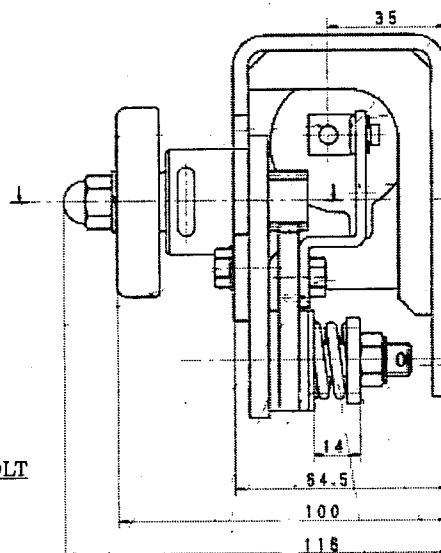
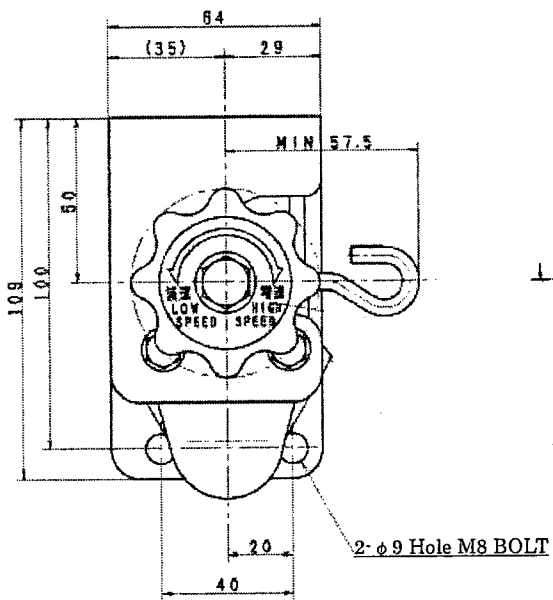


	TERMINAL MARK				
	19	30	17	50	AC
3	○	○			○
0					
1		○	○	○	○
2		○	○	○	○

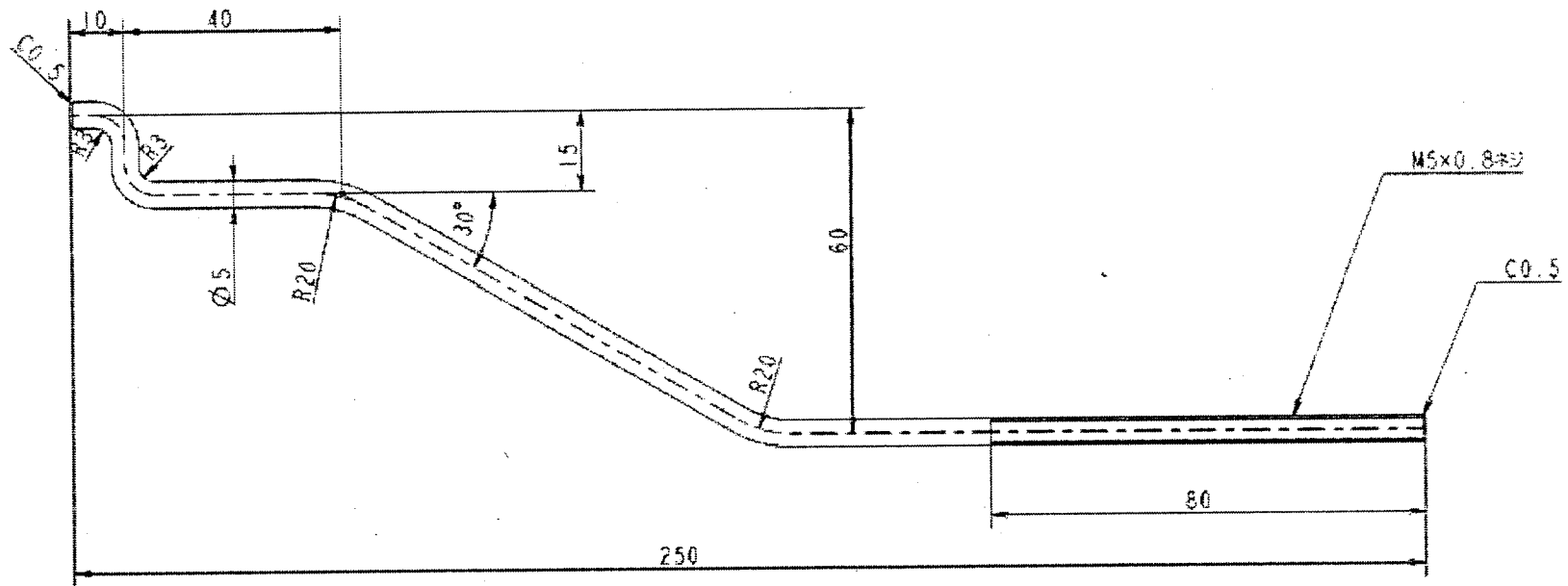
POSITION



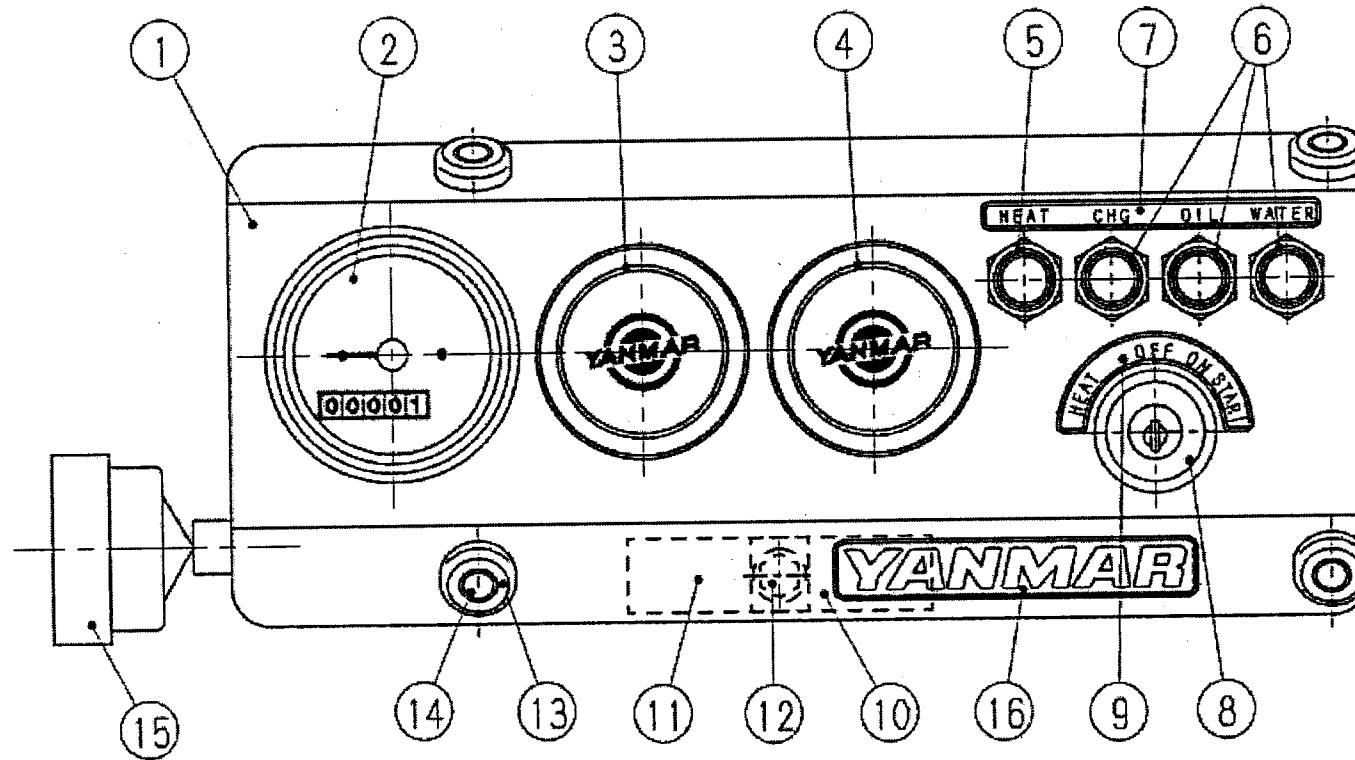
YANMAR CO., LTD	
部品名称 PART	KEY SWITCH
PART No.	933110-00100



YANMAR CO., LTD	
部品名称 PART	SPEED CONTROLLER
PART No.	119888-66161



YANMAR CO., LTD	
部品名称 PART	LINK, SPEED CONTROLLER
PART No.	119746-66120



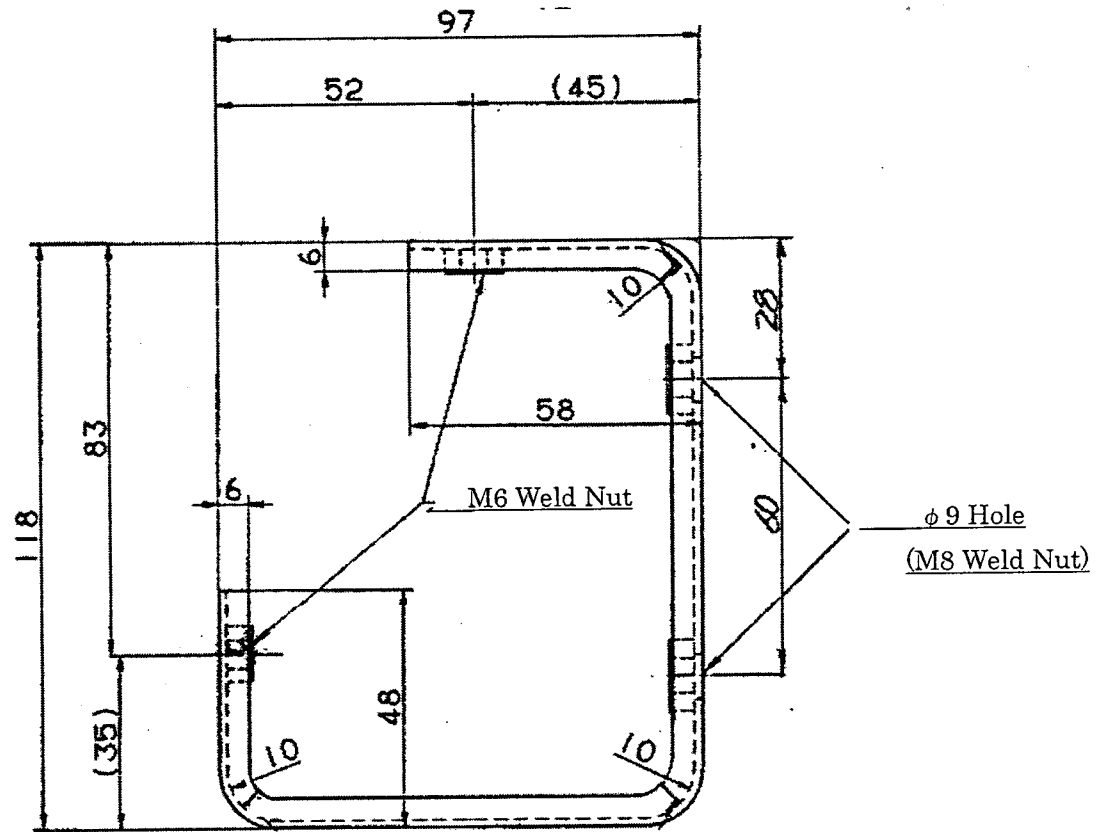
	119888-91102			119888-91302		
⑩ LABEL, YANMAR	104507-07190	1		104507-07190	1	
⑮ WIRE HARNESS B	119888-91032	1		119888-91032	1	
⑭ SPACER	121400-91530	4		121400-91530	4	
⑬ CUSHION RUBBER	121400-91520	4	BLACK	121400-91520	4	BLACK
⑫ BOLT	26106-060162	1	M6x10 FOR TIMER	26106-060162	1	M6x10 FOR TIMER
⑪ TIMER, AIR HEATER	128300-77920	1		128300-77920	1	
⑩ TIMER, SOLENOID	129211-77920	1		129211-77920	1	
⑨ LABEL, KEY SWITCH	119888-91620	1		119888-91620	1	
⑧ STARTER SWITCH	933110-00100	1		933110-00100	1	
⑦ LABEL, ALARM LAMP	119888-91610	1		119888-91610	1	
⑥ PILOT LAMP	124732-77720	3	LENS RED	124732-77720	3	LENS RED
⑤ PILOT LAMP	124559-77971	1	LENS BLUE	124559-77971	1	LENS BLUE
④ COVER	124770-91220	1		124770-91220	1	
③ COVER	124770-91220	1		124770-91220	1	
② TACHOMETER	171080-91101	1	MAX 5000rpm	171082-91100	1	MAX 2500rpm
① BODY, PANEL	119888-91110	1		119888-91110	1	
PART NAME	PART CODE	QTY	REMARKS	PART CODE	QTY	REMARKS

YANMAR CO., LTD.	
PARTS NAME	PANEL ASSY
PARTS CODE	119888-91102
	119888-91302

YANMAR CO., LTD.

$\lambda=1.6$

2- $\phi 7$ Hole



YANMAR CO., LTD

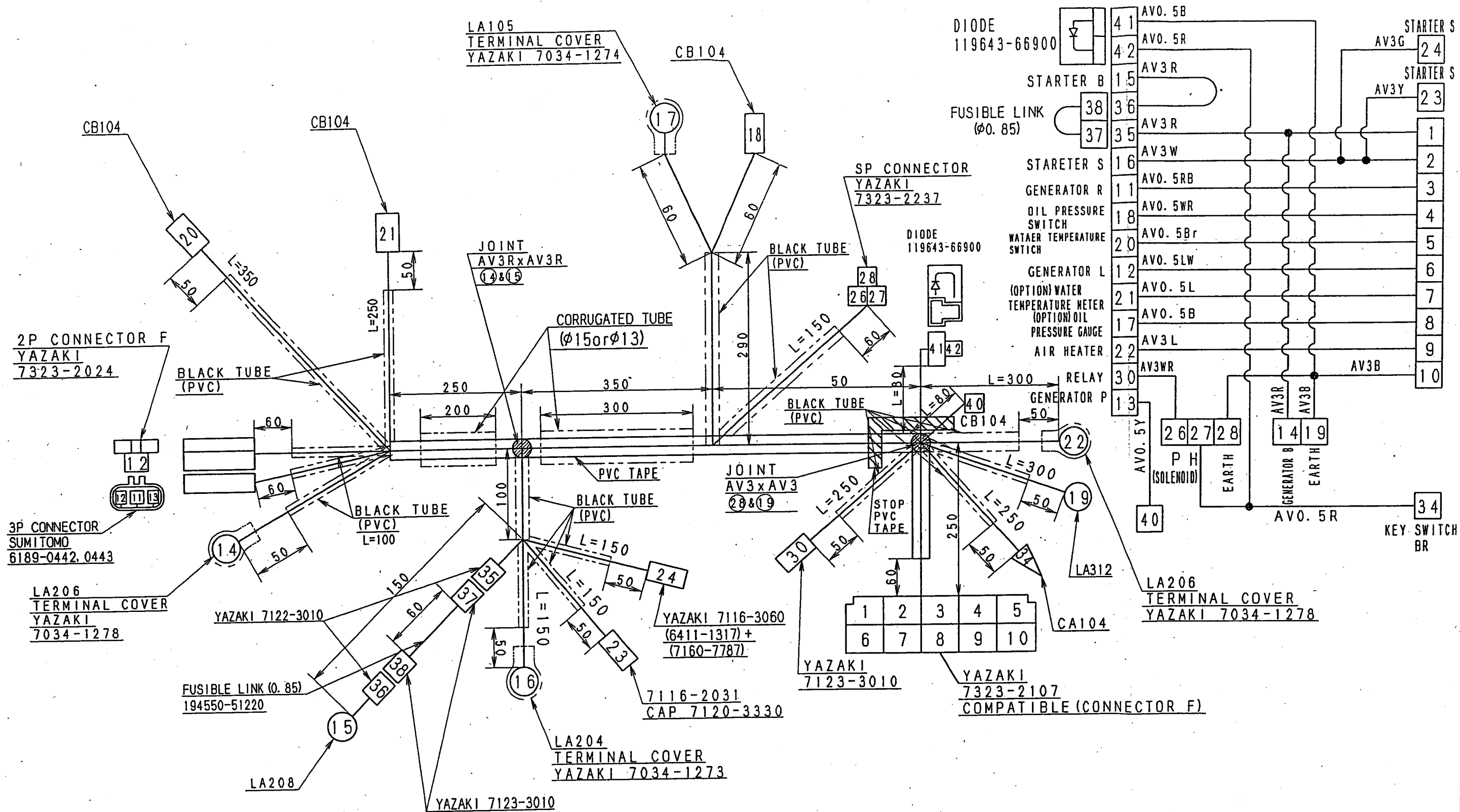
部品名称

Support, Panel

PART

PART No.

119888-91120

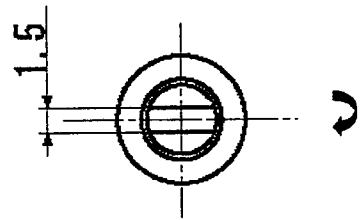


REMARKS

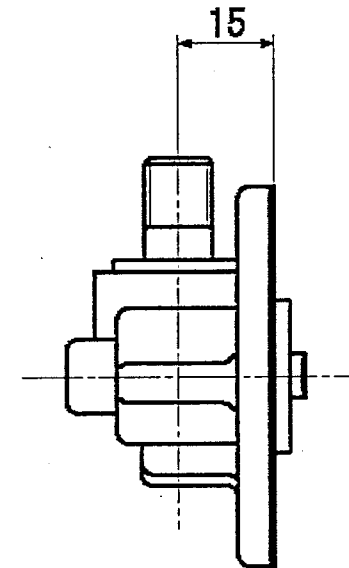
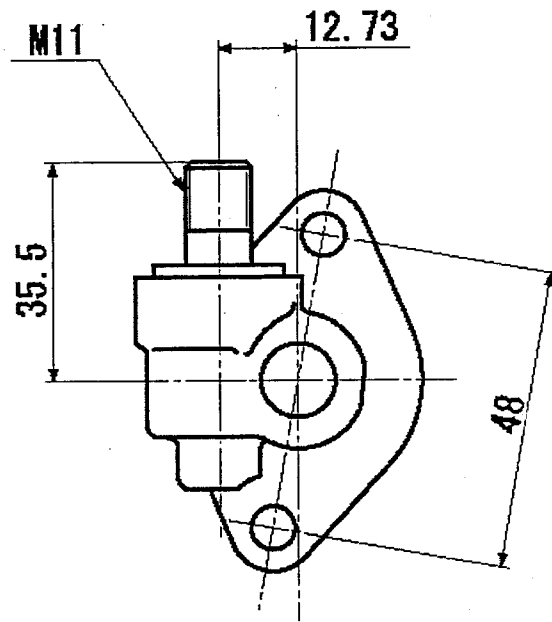
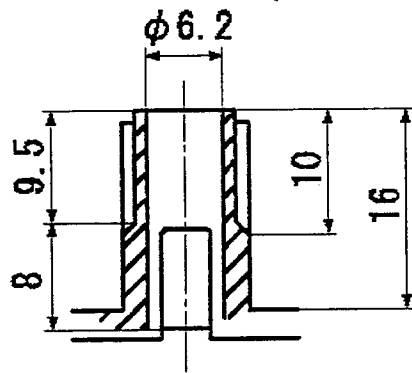
1. THIS PART IS USED FOR THE ENGINE SIDE.
2. THIS PART IS NOT POSSIBLE TO APPLY SOLENOIDE OF SHIN DENMOTO.
3. ALL COUPLERS ARE SCHEMATIC DRAWING WHICH VIEWED FROM FITTING SIDE.

YANMAR CO., LTD

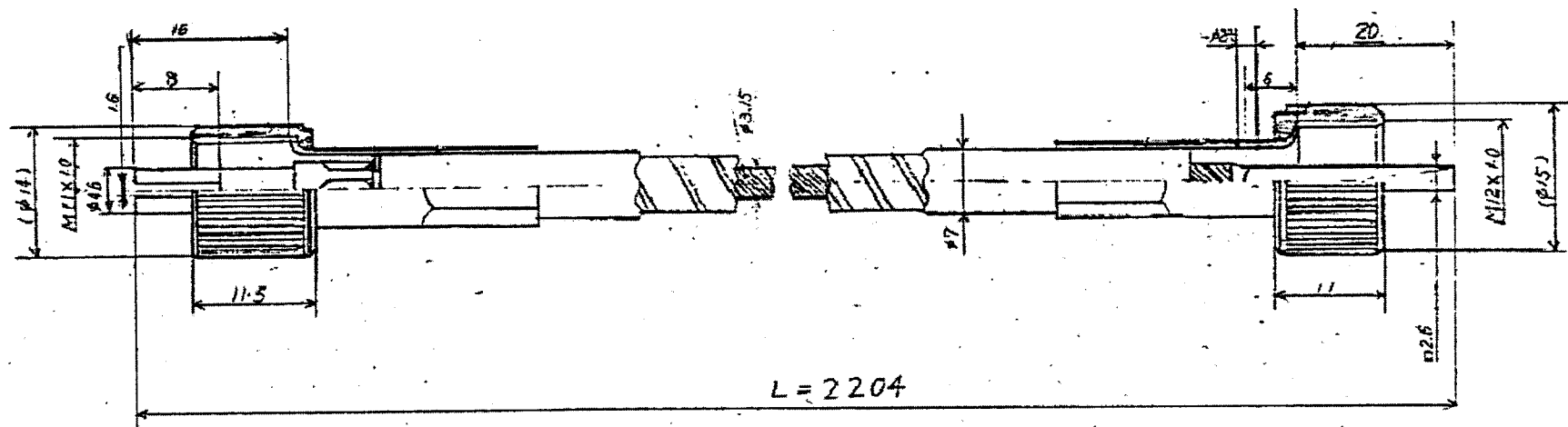
PARTS NAME	WIRE HARNESS, A
PARTS CODE	119888-91026



DIRECTION OF ROTATION



YANMAR CO., LTD	
部品名称 PART	GEAR UNIT
PART No.	129150-91400



Drive Side

Panel Side

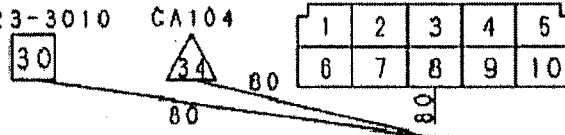
YANMAR CO., LTD	
部品名称 PART	Cable, Tachometer
PART No.	124737-91420

YAZAKI

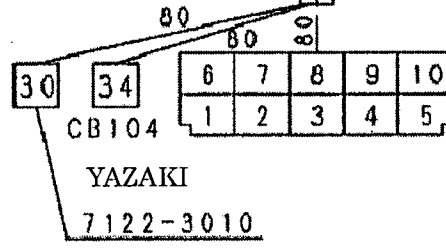
7123-3010 CA104

YAZAKI

7323-2107



012	34	1.25	R
011	30	3	W. R
010	10	1.25	L. R
009	9	1.25	O
008	8	3	B
007	7	3	L
006	6	1.25	LW
005	5	1.25	Br
004	4	1.25	W. R
003	3	1.25	R. B
002	2	3	R
001	1	3	W
No.	MARK	DIA.	COLOR



YAZAKI

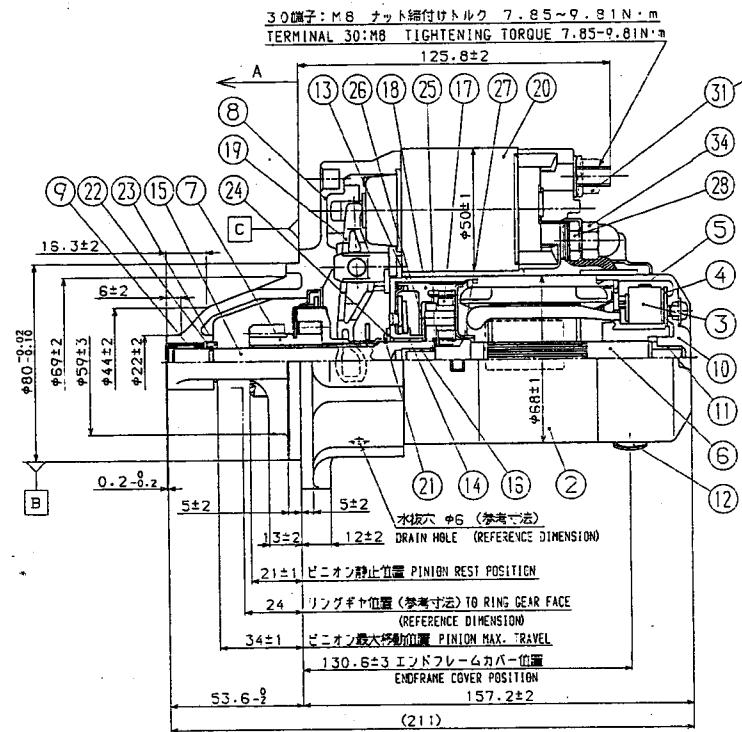
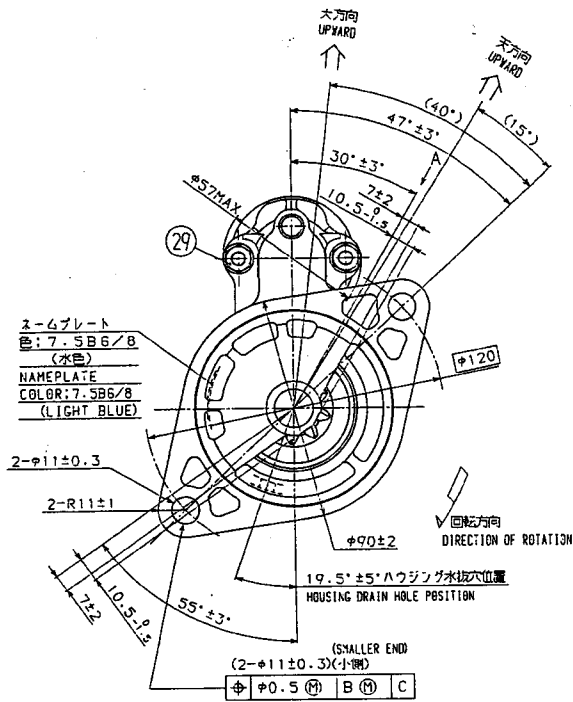
7322-2107

CB104
YAZAKI
7122-3010

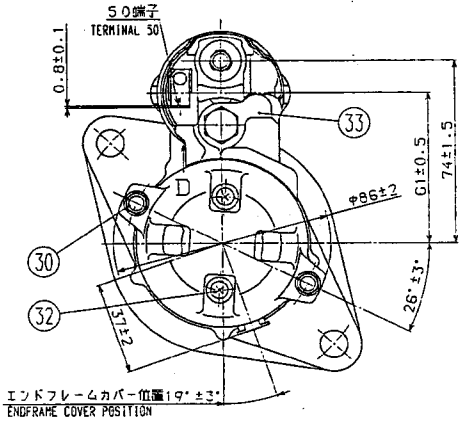
NOTE

1.ALL COUPLERS ARE SCHEMATIC DRAWING WHICH VIEWED FROM FITTING SIDE.

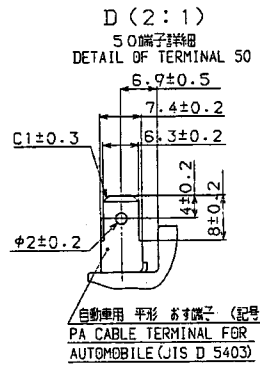
YANMAR CO., LTD	
部品名称 PART	Cord, Extension
PART No.	119946-91010



ASSY補給品のみ使
FOR ASSY
REPLACEMENT ONLY



STARTER SPECIFICATION	
RATED VOLTAGE	12V
RATED OUTPUT	1.1kW (JIS 12-C)
RATED TIME	30s
MASS	APPROX. 3000g
DIRECTION OF ROTATION	CLOCKWISE VIEWED FROM PINION END



YANMAR CO., LTD	
部品名称 PART NAME	Starter (12V-1.1kw)
PART No.	119717-77010

