YANMAR CO., LTD.
YANMAR AMERICA CORP.

Supplement to Yanmar Kit Installation Instructions

SAFETY

This product is designed and intended only for use with a YANMAR engine. All safety and warning information contained in the Yanmar Operation Manual and Service Manual is adopted and incorporated to apply to the components, accessories, and parts that are utilized with Yanmar engines. Follow all instructions and precautions before installing this product, before operating, during operation, and during periodic maintenance procedures for your safety, the safety of others, and to protect the performance of your engine.

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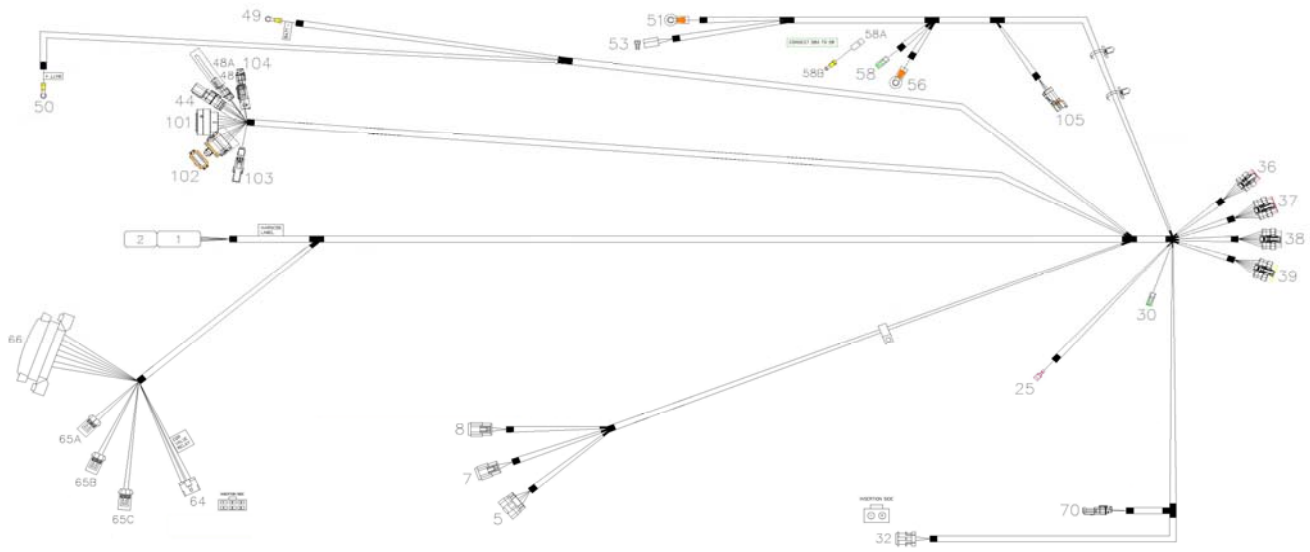
Item	Part No.	Description	Quantity	Remarks
1	900400	Main Harness Assembly	1	
2	198461-52950	Relay for EGR valve	1	Included w/ engine
3	-	80A, 12V Relay	2	Included w/ harness
4	-	Starter Sub Harness	1	Included w/ harness

MODELS
4TNV88C
4TNV98C
4TNV98CT



NOTE: Starter Sub Harness may not be necessary; Starter type will determine

KPH9 - Harness KIT
INS-KPH9-0010

Installation Instructions

NOTE: Only the Starter and Glow Plug Relays are included with the harness kit. The EGR valve relay is supplied with the distributor standard specification engine in the loose parts box. The optional connections for distributer use are located in the Accessory Coupler. The optional features include Pre-Heat Lamp, Engine Stop 1 & 2, Charge Lamp, etc.

Please see the next page for detailed installation instructions.

WARNING: Be sure battery cables are connected correctly. Disconnecting either the positive or negative battery cable while the equipment is operating will cause premature failure of electronic components. Also, never weld on equipment with the ECU connected to the wire harness.

NOTE: In the event that the wire harness needs to be extended, never use scotch locks or butt connectors to extend the wire harness. All extended wires must be soldered and sealed.

Remote Mounted ECU Applications:

For applications that remotely mount the ECU within the wire harnesses reach please use the following ECU mounting guidelines:

1- Install the ECU in a location that is not subject to steam or high-pressure water for cleaning
2- Install the ECU in a location that is well ventilated and not subject to direct sunlight.
3- Install the ECU so that the connector faces downward. Failure to do so may trap water in the connector, resulting in corrosion of connector pins.
4- Ensure no water is trapped inside the connector when plugging the connector. Water inside the connector may corrode connector pins, resulting in malfunctioning of the ECU.

Refer to harness drawing for additional design requirements for consideration of application. A troubleshooting guide is available through Yanmar's Distributor Website or by contacting Yanmar America's Service Department.

Table 1: Comply with torque standards in the table to avoid unexpected damage during installation or in the future.

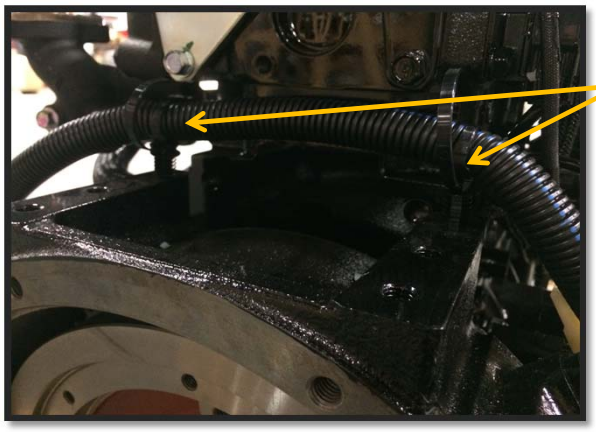
Diameter x Pitch	Kgf-m	Foot-lbf	N-m
M5x0.8	0.4 ~ 0.7	3 ~ 5	4 ~ 6.7
M6 x 1.0	1.0~1.2	7 ~ 9	9.8 ~ 11.8
M8 x 1.25	1.5 ~ 2.9	10.6 ~ 20.9	14.4 ~ 28.3
M12 x 1.75	8.0 ~ 10.0	57.8 ~ 72.3	78.4 ~ 98.0

Note: There are no bolts included with harness kit

Harness Routing Instructions

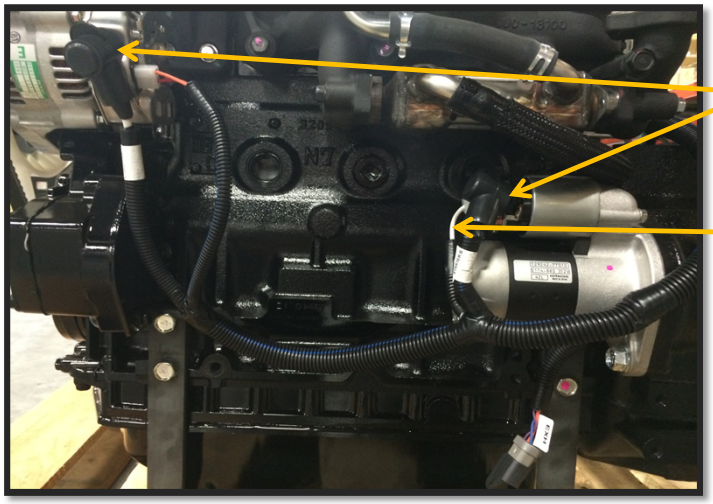
1. Lay the loose harness on engine to gauge fitment and placement of where the relays, ECU, and connectors should go based on the wiring diagrams provided. Please refer to TNV application manual for cautionary measures to be taken when mounting a harness to an engine.

2. Secure section of loom containing (2) P-clips to the flywheel housing with loosely attached P-clips. There will be a series of M10 bolt holes on the top of the flywheel housing.



P-clips hold down the alternator and starter section of loom to the flywheel housing. Make sure P-clips and loom have the proper orientation to allow the loom to rest close to the flywheel barrel.

3. Connect alternator plugs (51) & (53) and starter connectors (56) & (58). Cover terminals after connecting.

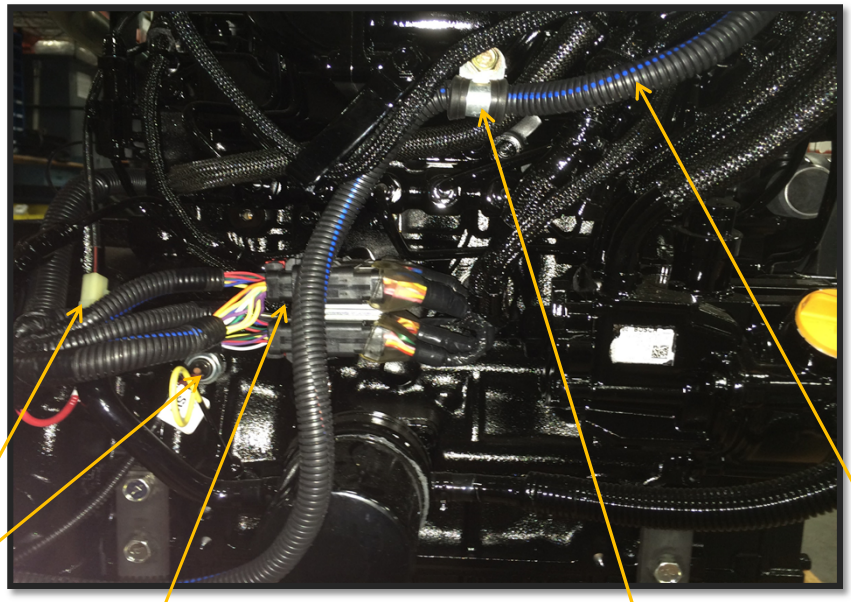


Replace terminal covers after connecting

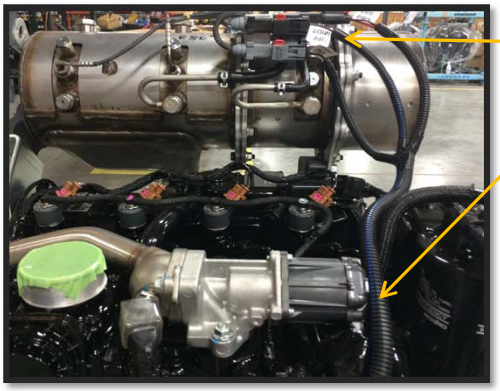
Starter Sub Harness may need to be removed to properly attach connector (58)

4. Layout harness as shown. Connectors 1, 2, 64, 65 - 66, 44, 48, 101 - 104, and the battery leads (49 & 50)

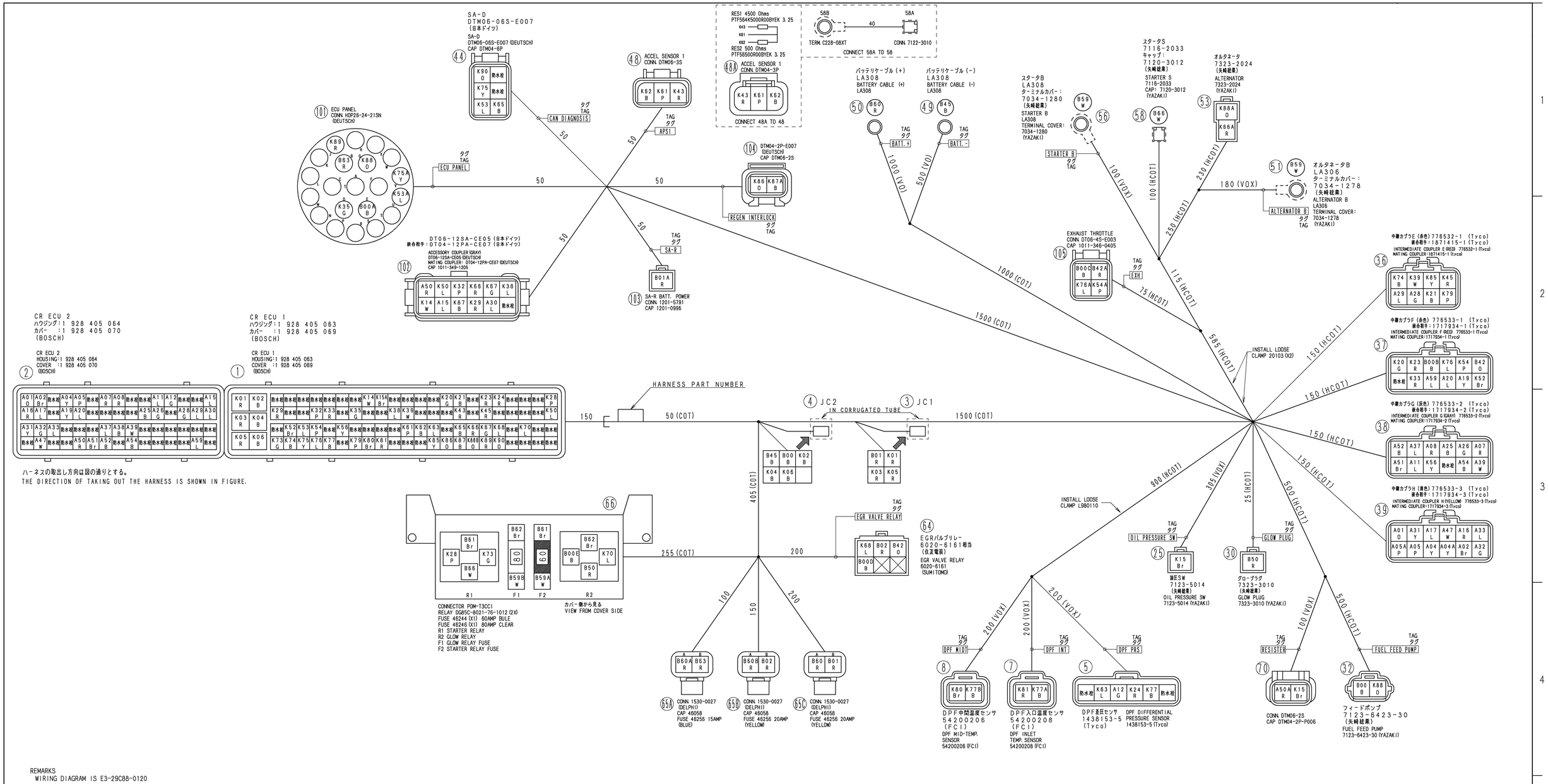
5. The intermediate couplers (36-39) should be connected next. The mounting points for the turbo engines may differ from the naturally aspirated engines. Please see the pictures below for reference on exact positioning (4TNV88C shown below). Connect glow plug (30) and oil pressure switch (25). Route the DPF loom section similar to placement shown. Use loose clamp noted to attach harness. Always avoid harness contact with high temp surfaces such as the DPF, EGR, etc.



6. Route the DPF branch between the EGR valve and the fuel filter up to the DPF connections. Check and adjust if necessary to ensure that no contact will be made in operation between harness and high temp surfaces (DPF, etc)



Refer to harness drawing for additional design requirements for consideration of application.



REMARKS
WIRING DIAGRAM IS E3-29C88-0120

No.	種類 KIND OF WIRE	断面 CROSS SECTION	色 WIRE COLOR	回路記号 CIRCUIT MARK	端子 TERMINAL	回路接続先 CIRCUIT MATING TIP	備考 REMARKS
001	AVS	5.0	R	B60		50 - 85C	
002	AVS	5.0	R	B60A		1 - 85A	
003	AVS	5.0	R	B60B		1 - 85B	
004	AVS	5.0	R	B01		85C - 3	
005	AVS	1.25	R	B01A		1 - 103	
006	AVSS	1.25	R	B02		85B - 84	
007	AVSS	2.0	R	K01		3 - 1	
008	AVSS	2.0	R	K03		3 - 1	
009	AVSS	2.0	R	K05		3 - 1	
010	AVSS	2.0	R	B63		85A - 101	
011	AVSS	1.25	O	K88		32 - 101	
012	AVSS	0.85	O			- 53	
013	AVSS	0.5	O	K88B		1 - 1	
014	AVSS	0.5	G	K35		101 - 1	
015	AVS	5.0	B	B45		4 - 49	
016	AVSS	2.0	B	K02		1 - 4	
017	AVSS	2.0	B	K04		1 - 4	
018	AVSS	2.0	B	K06		1 - 4	
019	AVSS	1.25	B	B00		4 - 32	
020	AVSS	1.25	B			- 101	
021	AVSS	1.25	B			- 37	
022	AVSS	1.25	B	B00C		1 - 105	
023	AVSS	0.5	B			1 - 84	
024	AVSS	0.5	B	B00E		1 - 66	
025	AV	8.0	W	B59		56 - 51	
026	AV	8.0	W			1 - 66	
027	AV	8.0	W	B59B		1 - 66	
028	AVS	3.0	Br	B61		66 - 66	
029	AVS	5.0	Br	B62		66 - 66	
030	AVS	3.0	W	B66		66 - 58	
031	AVSS	0.5	P	K28		1 - 66	
032	AVSS	1.25	G	K73		1 - 66	
033	AVSS	0.5	L	K70		1 - 66	
034	AVS	5.0	R	B50		30 - 66	
035	AVSS	1.25	R	A50		2 - 102	
036	AVSS	0.85	R			- 70	
037	AVSS	1.25	R	K29		1 - 102	
038	AVSS	0.5	R	K69		1 - 101	
039	AVSS	0.5	L	K50		1 - 102	
040	AVSS	0.5	P	K32		- 102	
041	AVSS	0.85	Br	K15		25 - 70	
042	AVSS	0.5	Br	K15A		- 1	
043	AVSS	0.5	R	K66		1 - 102	
044	AVSS	0.85	R	K66A		- 53	
045	AVSS	0.5	G	K67		1 - 102	
046	AVSS	0.5	L	K38		1 - 102	
047	AVSS	0.5	B	K87		1 - 102	
048	AVSS	0.5	B	K87A		1 - 104	
049	AVSS	0.5	B	K65		1 - 44	
050	AVSS	0.5	O	K86		1 - 104	
051	AVSS	1.25	L	A30		2 - 102	
052	AVSS	0.5	W	K14		1 - 102	
053	AVSS	1.25	L	A15		2 - 102	
054	AVSS	0.5	R	K24	金 GOLD	1 - 5	
055	AVSS	0.5	L	K63	金 GOLD	1 - 5	
056	AVSS	0.5	G	A12	金 GOLD	2 - 5	
057	AVSS	0.5	B	K77	金 GOLD	1 - 5	
058	AVSS	0.5	B	K77A	金 GOLD	- 7	
059	AVSS	0.5	B	K77B	金 GOLD	- 6	
060	AVSS	0.5	R	K81	金 GOLD	1 - 7	
061	AVSS	0.5	Br	K80	金 GOLD	1 - 8	
062	AVSS	0.5	R	K45		K45 - 36	
063	AVSS	0.5	Y	K85		K85 - 36	
064	AVSS	0.5	W	K39		1 - 36	
065	AVSS	0.5	B	K74		K74 - 36	
066	AVSS	0.5	P	K79		1 - 36	
067	AVSS	0.5	B	K21		1 - 36	
068	AVSS	0.5	G	A28		2 - 36	
069	AVSS	0.5	L	A29		2 - 36	
070	AVSS	1.25	O	B42		84 - 37	
071	AVSS	1.25	O			B42A - 105	
072	AVSS	0.5	P	K54		1 - 37	K76とツイスト 47B TWISTED PAIR
073	AVSS	0.5	P			K54A - 105	K76Aとツイスト K76A TWISTED PAIR
074	AVSS	0.5	L	K76		1 - 37	K54とツイスト K54 TWISTED PAIR
075	AVSS	0.5	L			K76A - 105	K54Aとツイスト K54A TWISTED PAIR
076	AVSS	0.5	R	K23		K23 - 37	
077	AVSS	0.5	G	K26		K26 - 37	
078	AVSS	0.5	Br	K52		K52 - 37	
079	AVSS	1.25	Y	A19		2 - 37	A20とツイスト A20 TWISTED PAIR
080	AVSS	1.25	L	A20		2 - 37	A19とツイスト A19 TWISTED PAIR
081	AVSS	0.5	L	A11		2 - 38	
082	AVSS	0.5	Br	A51		2 - 38	
083	AVSS	0.5	R	A07		2 - 38	
084	AVSS	0.5	G	A26		2 - 38	
085	AVSS	0.5	B	A25		2 - 38	
086	AVSS	0.5	W	A39		2 - 38	A54とツイスト A54 TWISTED PAIR
087	AVSS	0.5	B	A54		2 - 38	A39とツイスト A39 TWISTED PAIR
088	AVSS	0.5	B	A38		2 - -	A38, A54のシールド二重線 SHIELD WITH A38, A54
089	AVSS	0.5	R	A08		2 - 38	
090	AVSS	0.5	L	A37		2 - 38	
091	AVSS	0.5	B	A52		2 - 38	
092	AVSS	1.25	L	A33		2 - 39	A18とツイスト A18 TWISTED PAIR
093	AVSS	1.25	R	A16		2 - 39	A33とツイスト A33 TWISTED PAIR
094	AVSS	1.25	W	A47		2 - 39	A17とツイスト A17 TWISTED PAIR
095	AVSS	1.25	L	A17		2 - 39	A47とツイスト A47 TWISTED PAIR
096	AVSS	1.25	Y	A31		2 - 39	A01とツイスト A01 TWISTED PAIR
097	AVSS	1.25	O	A01		2 - 39	A31とツイスト A31 TWISTED PAIR
098	AVSS	1.25	G	A32		2 - 39	A02とツイスト A02 TWISTED PAIR
099	AVSS	1.25	Br	A02		2 - 39	A32とツイスト A32 TWISTED PAIR
100	AVSS	1.25	Y	A04		2 - 39	A05とツイスト A05 TWISTED PAIR
101	AVSS	1.25	Y			A04A - 39	A04と接続 CONNECTED TO A04
102	AVSS	1.25	P	A05		2 - 39	A04とツイスト A04 TWISTED PAIR
103	AVSS	1.25	P			A05A - 39	A05と接続 CONNECTED TO A05
104	AVSS	0.5	L	K88		K88 - 1 - 84	
105	AVSS	0.5	O	K80		K80 - 1 - 44	
106	AVSS	0.5	Y	K75		K75 - 1 - 44	K53とツイスト K53 TWISTED PAIR
107	AVSS	0.5	Y			K75A - 101	K75と接続 CONNECTED TO K75
108	AVSS	0.5	L	K53		K53 - 1 - 44	K75とツイスト K75 TWISTED PAIR
109	AVSS	0.5	L			K53A - 101	K53と接続 CONNECTED TO K75
110	AVSS	0.5	R	K43		K43 - 金 GOLD - 1 - 48	
111	AVSS	0.5	P	K61		K61 - 金 GOLD - 1 - 48	
112	AVSS	0.5	B	K62		K62 - 金 GOLD - 1 - 48	
113	AVSS	0.5	Y	K56		K56 - 1 - 38	
114	AVSS	0.5	L	A59		A59 - 2 - 37	
115	AVSS	0.5	R	K33		K33 - 1 - 37	

名称 NAME	HARNESS, A T4
	HARNESS, A T4

YANMAR CO., LTD.
POWER SYSTEM OPERATIONS DIV.

コード CODE 129C88-91120

図面サイズ A1 (D)

HARNESS A

STARTER RELAY GLOW PLUG RELAY

GLOW PLUG 129008-77800 (BODY EARTH)

EGR VALVE RELAY 172802-17150

DPF DIFFERENTIAL PRESSURE SENSOR 129078-17700

DPF INJECT TEMP. SENSOR 129078-13410

DPF EXHAUST TEMP. SENSOR 129078-13520

※ EXHAUST THROTTLE 129C00-13501

EXHAUST THROTTLE COUPLER

HARNESS B (129C00-91222 for 4TNV88C) (129C01-91221 for 4TNV66CT) (129E00-91221 for 4TNV98C) (129E01-91221 for 4TNV88CT)

EGR PRESSURE SENSOR 129078-12700

AMBIENT TEMP. SENSOR 129A00-13711

AIR TEMP. SENSOR 129A00-13721

EGR VALVE 129C00-13501

RESISTER 150ohm 129A00-17590

INTAKE THROTTLE 129A00-12900

EGR TEMP. SENSOR 129A00-13751

INT. MANI. TEMP. SENSOR 129A00-13741

EXH. GAS TEMP. SENSOR (1ST) (2ND) (3RD) (4TH) (4TNV98C) (1ST) (2ND) (3RD) (4TNV88C) FUEL TEMP. SENSOR 129A00-51000

RAIL PRESSURE SENSOR 129D00-37400

CRANK SPEED SENSOR 129A00-21710

CAM SPEED SENSOR 129A00-14110

INTERMEDIATE COUPLER E

INTERMEDIATE COUPLER F

INTERMEDIATE COUPLER G

INTERMEDIATE COUPLER H

HARNESS C (129C00-91231 for 4TNV88C,88CT) (129E00-91231 for 4TNV98C,4TNV98CT)

INJECTOR 129A00-53100

SUPPLY PUMP 129A00-51000 HPP

※ RESISTANCE (120Ω) 1AK33E-51510

FEED PUMP 119225-52102 129B12-52100

OIL PRESSURE SW. 119761-39450 (BODY EARTH)

CAN PANEL

RESISTER 120ohm

PANEL COUPLER

KEY SW.

KEY SWITCH CIRCUIT DIAGRAM

	B	BR	C
OFF			
ON	○	○	
START	○		○

※ SA-R

SA-D

※ PRE-HEAT LAMP WAX3.4W

※ ENGINE STOP 1 NO 1.2mA@12A

※ CHARGE LAMP WAX3.4W

※ ENGINE STOP 2 1.2mA@12A

※ STARTER PERMISSION 2 1.2mA@12A

※ STARTER PERMISSION 1 3.2mA@12A

※ BUZZER WAX50mA

ACCESSORY COUPLER

REGENERATION INTERLOCK

REGENERATION INTERLOCK 1.2mA@12A

ACCELERATOR SENSOR 1

DUMMY ACCELERATOR SENSOR 450ohm 505ohm

BATTERY

STARTER

ALTERNATOR

(BODY EARTH)

4TNV88C/88CT 129136-77011 DC12V/2.3kW

4TNV98C/98CT 129940-77011 DC12V/3.0kW

129052-77220 DC12V/55A (DENSO)

NOTES OF ALTERNATOR
IF OTHER ALTERNATOR IS INSTALLED, PLEASE CONFIRM THAT ALTERNATOR HAS DIODE FOR PREVENTION OF BACK FLOW CURRENT INSIDE.
IF ALTERNATOR DOES NOT HAVE DIODE INSIDE.
DIODE FOR PREVENTION OF BACK FLOW CURRENT SHOULD BE INSTALLED BETWEEN IG TERMINAL AND IGNSW TERMINAL OF ECU.

JC1

JC2

ECU

VB	
VB	
VB	
SAID-RLY	
STR-RLY (D-UB5)	
UB5	
STARTSW	
TDPFM	
TDPFI	
UB2	
IGNSW	
5VS	
PDPF	
A_GND	
PDPFH	
CAN1H	
CAN1L	
CAN2H	
CAN2L	
D-GND	
5VS	
PEGR	
PEGRL	
A_GND	
UB3	
PREHT-LMP	
SHUDNSW	
LOPSW	
CHGSW	
TFAIR	
A_GND	
APP-IP2	
APP-IP7	
APP-IP9	
WDSBSW	
D-GND	
UB2	
5VS	
IVPS	
A_GND	
REQP2 (D_UB5)	
TEXMH	
TEGR	
TIAIR	
5VS	
APS1	
A_GND	
TW	
A_GND	
IVDCM-H	
IVDCM-L	
TFO	
A_GND	
5VS	
PRAIL	
A_GND	
CKSPD	
CKSPD	
A_GND	
5VS	
CMSPD	
A-GND	
INJ1-1H	
INJ1-1L	
INJ1-2H	
INJ1-2L	
INJ2-1H	
INJ2-1L	
INJ2-2H	
INJ2-2L	
MPROP-H	
HPPSOL	
UB5	
UB3	

(BODY EARTH)

名称 NAME	WIRING DIAGRAM (DPF-CR WIRING DIAGRAM, CR		
YANMAR CO., LTD. POWER SYSTEM OPERATIONS DIV.	コード code	E3-29C88-0120	図面サイズ A1 (D)