



## Supplement to Yanmar Kit Installation Instructions

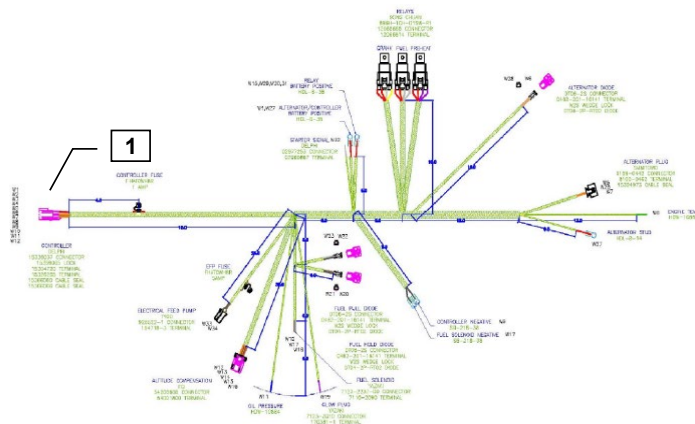
# SAFETY

---

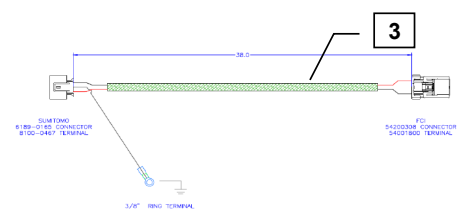
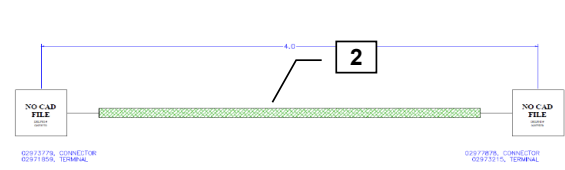
This product is designed and intended only for use with a YANMAR engine. All safety and warning information contained in the Yanmar Operation Manual and Service Manual is adopted and incorporated to apply to the components, accessories, and parts that are utilized with Yanmar engines. Follow all instructions 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.



Item	Part No.	Description	Quantity	Remarks
1	119749-91160*	Wiring Harness	1	
2	119749-91180*	Starter Patch Harness	1	
3	119749-91190*	Patch for Altitude Compensation Solenoid	1	



**TIER 4F MODELS**  
 3TNV74F-SDSA  
 3TNV80F-SDSA



Note: Service parts are denoted by an asterisk. To replace non-service parts, the entire kit will need to be purchased.



---

## Installation Instructions

---

Hand tighten all bolts and nuts until assembly is completed, then torque according to specifications in Table 1. The numbers in () represent the item numbers.

1. Connect harness terminals to appropriate locations. See engine wiring harness diagram and schematics shown on page 3 and 4 of this document.

NOTE: The spare starter patch harness is used if the 1.2kW starter is used.

2. Mount the bracketed relays in the front exhaust side engine foot.
3. After connecting all terminals to appropriate locations, check the following:
  - a) Make sure the wires do not contact the exhaust manifold or muffler.
  - b) Make sure the wires do not contact any sharp or abrasive surfaces.
  - c) Use wire ties to secure the wire harness to the engine.
  - d) Cover all harness terminals not used after assembly is completed

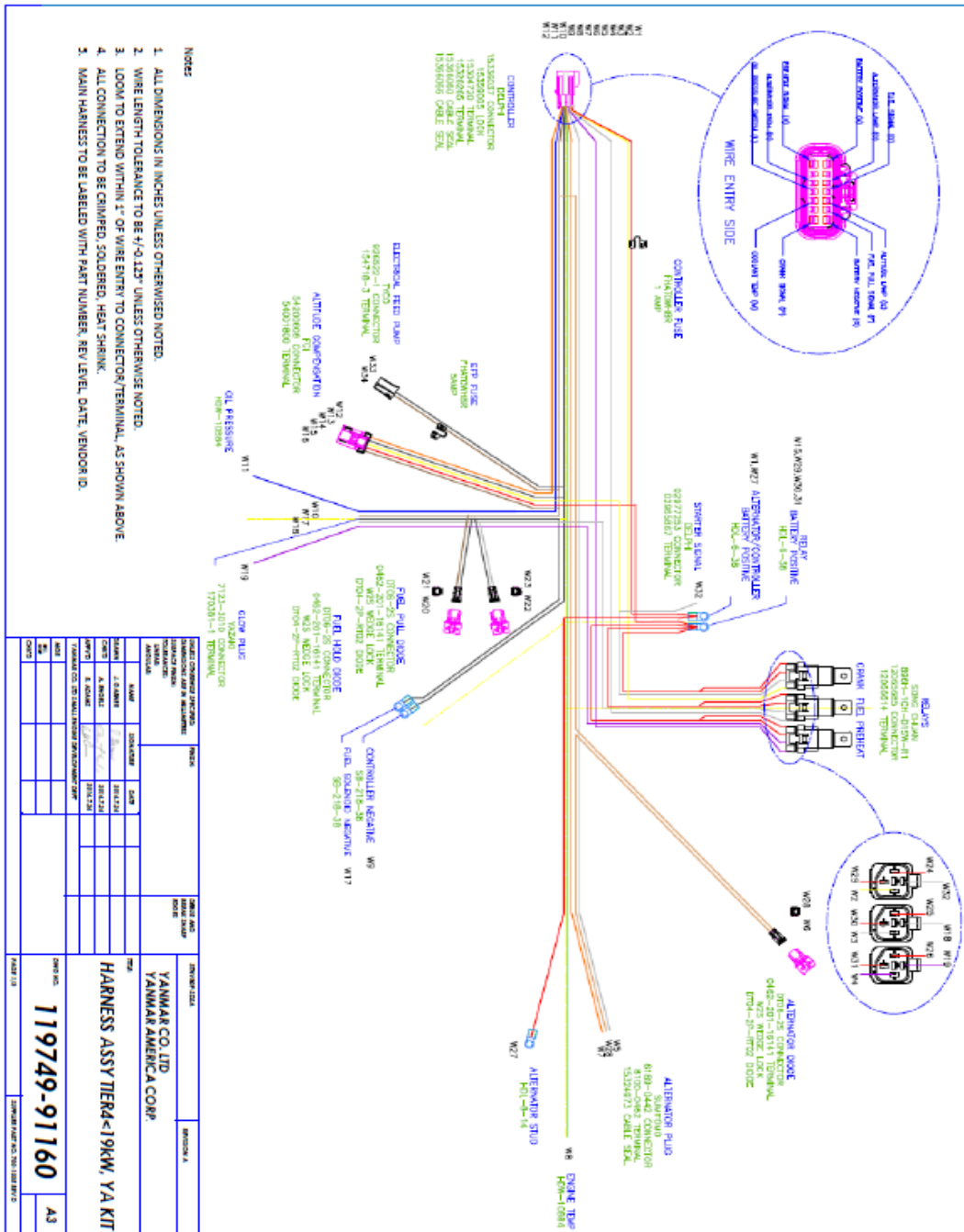
WARNING: Be sure battery cables are connected correctly before operation. If at any time during operation, the battery cables are removed, the harness could fail prematurely.

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: Proper torque specifications for bolts and nuts.**

Diameter x Pitch	Kgf-m	Foot-lbf	N-m
M8 x 1.25	1.5 ~ 2.9	10.6 ~ 20.9	14.4 ~ 28.3
M10 x 1.50	4.5 ~ 5.5	32.5 ~ 39.8	44.0 ~ 54.0
M12 x 1.75	8.0 ~ 10.0	57.8 ~ 72.3	78.4 ~ 98.0

## Installation Instructions

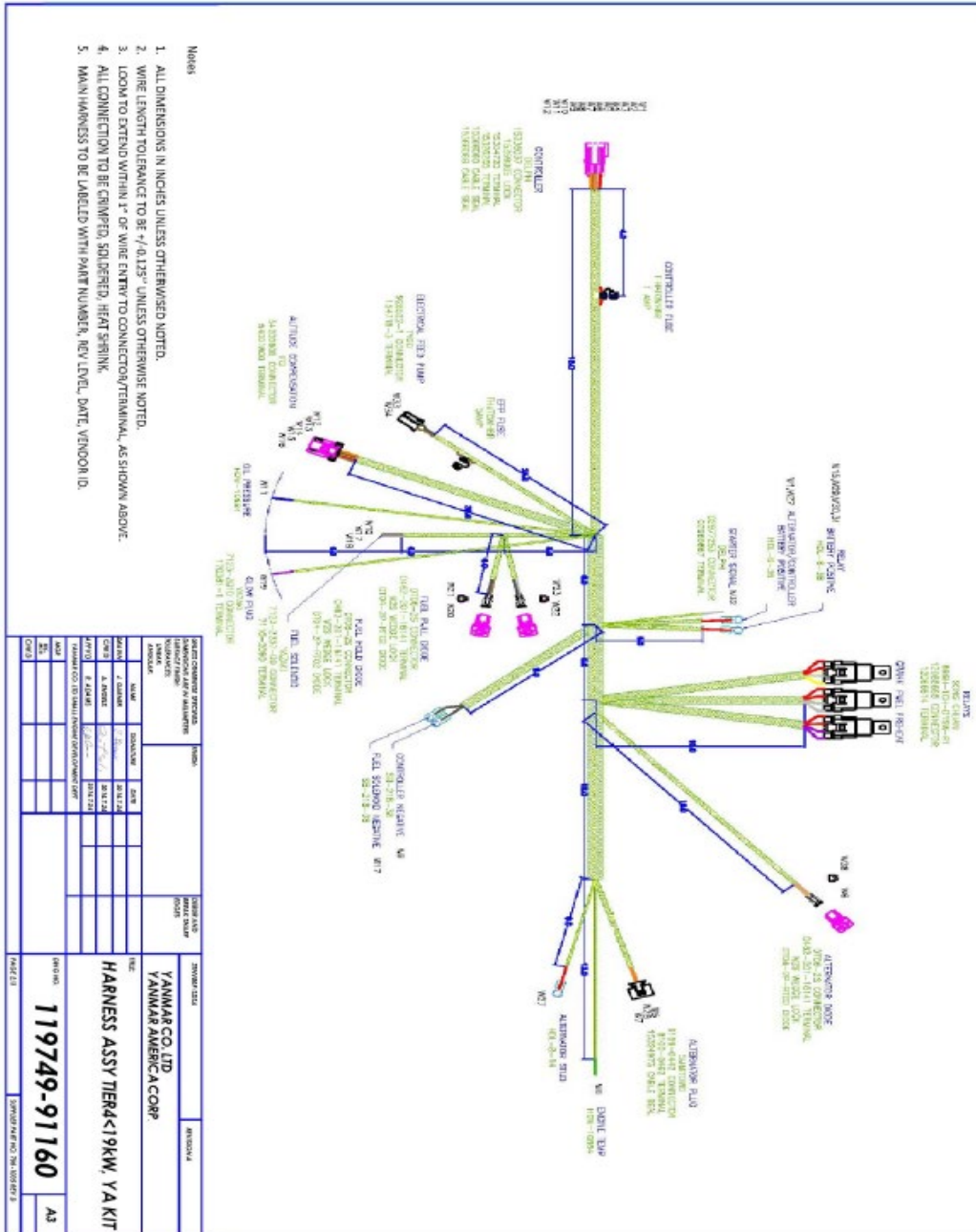


- NOTES:
1. ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.
  2. WIRE LENGTH TOLERANCE TO BE +/- 0.127" UNLESS OTHERWISE NOTED.
  3. LOOK TO EXTEND WITHIN +/- 0.127" OF WIRE ENTRY TO CONNECTOR/TERMINAL, AS SHOWN ABOVE.
  4. ALL CONNECTIONS TO BE CHANGED, SOLDERED, HEAT SHRINK.
  5. MAIN HARNESS TO BE LABELED WITH PART NUMBER, REV LEVEL, DATE, VENDOR ID.

ITEM NO.	DESCRIPTION	QTY	UNIT	REMARKS
1	6190-0442 CONNECTOR	1	PC	
2	8170-0442 CONNECTOR	1	PC	
3	8170-0442 CONNECTOR	1	PC	
4	8170-0442 CONNECTOR	1	PC	
5	8170-0442 CONNECTOR	1	PC	
6	8170-0442 CONNECTOR	1	PC	
7	8170-0442 CONNECTOR	1	PC	
8	8170-0442 CONNECTOR	1	PC	
9	8170-0442 CONNECTOR	1	PC	
10	8170-0442 CONNECTOR	1	PC	
11	8170-0442 CONNECTOR	1	PC	
12	8170-0442 CONNECTOR	1	PC	
13	8170-0442 CONNECTOR	1	PC	
14	8170-0442 CONNECTOR	1	PC	
15	8170-0442 CONNECTOR	1	PC	
16	8170-0442 CONNECTOR	1	PC	
17	8170-0442 CONNECTOR	1	PC	
18	8170-0442 CONNECTOR	1	PC	
19	8170-0442 CONNECTOR	1	PC	
20	8170-0442 CONNECTOR	1	PC	
21	8170-0442 CONNECTOR	1	PC	
22	8170-0442 CONNECTOR	1	PC	
23	8170-0442 CONNECTOR	1	PC	
24	8170-0442 CONNECTOR	1	PC	
25	8170-0442 CONNECTOR	1	PC	
26	8170-0442 CONNECTOR	1	PC	
27	8170-0442 CONNECTOR	1	PC	
28	8170-0442 CONNECTOR	1	PC	
29	8170-0442 CONNECTOR	1	PC	
30	8170-0442 CONNECTOR	1	PC	
31	8170-0442 CONNECTOR	1	PC	
32	8170-0442 CONNECTOR	1	PC	
33	8170-0442 CONNECTOR	1	PC	
34	8170-0442 CONNECTOR	1	PC	
35	8170-0442 CONNECTOR	1	PC	
36	8170-0442 CONNECTOR	1	PC	
37	8170-0442 CONNECTOR	1	PC	
38	8170-0442 CONNECTOR	1	PC	
39	8170-0442 CONNECTOR	1	PC	
40	8170-0442 CONNECTOR	1	PC	
41	8170-0442 CONNECTOR	1	PC	
42	8170-0442 CONNECTOR	1	PC	
43	8170-0442 CONNECTOR	1	PC	
44	8170-0442 CONNECTOR	1	PC	
45	8170-0442 CONNECTOR	1	PC	
46	8170-0442 CONNECTOR	1	PC	
47	8170-0442 CONNECTOR	1	PC	
48	8170-0442 CONNECTOR	1	PC	
49	8170-0442 CONNECTOR	1	PC	
50	8170-0442 CONNECTOR	1	PC	
51	8170-0442 CONNECTOR	1	PC	
52	8170-0442 CONNECTOR	1	PC	
53	8170-0442 CONNECTOR	1	PC	
54	8170-0442 CONNECTOR	1	PC	
55	8170-0442 CONNECTOR	1	PC	
56	8170-0442 CONNECTOR	1	PC	
57	8170-0442 CONNECTOR	1	PC	
58	8170-0442 CONNECTOR	1	PC	
59	8170-0442 CONNECTOR	1	PC	
60	8170-0442 CONNECTOR	1	PC	
61	8170-0442 CONNECTOR	1	PC	
62	8170-0442 CONNECTOR	1	PC	
63	8170-0442 CONNECTOR	1	PC	
64	8170-0442 CONNECTOR	1	PC	
65	8170-0442 CONNECTOR	1	PC	
66	8170-0442 CONNECTOR	1	PC	
67	8170-0442 CONNECTOR	1	PC	
68	8170-0442 CONNECTOR	1	PC	
69	8170-0442 CONNECTOR	1	PC	
70	8170-0442 CONNECTOR	1	PC	
71	8170-0442 CONNECTOR	1	PC	
72	8170-0442 CONNECTOR	1	PC	
73	8170-0442 CONNECTOR	1	PC	
74	8170-0442 CONNECTOR	1	PC	
75	8170-0442 CONNECTOR	1	PC	
76	8170-0442 CONNECTOR	1	PC	
77	8170-0442 CONNECTOR	1	PC	
78	8170-0442 CONNECTOR	1	PC	
79	8170-0442 CONNECTOR	1	PC	
80	8170-0442 CONNECTOR	1	PC	
81	8170-0442 CONNECTOR	1	PC	
82	8170-0442 CONNECTOR	1	PC	
83	8170-0442 CONNECTOR	1	PC	
84	8170-0442 CONNECTOR	1	PC	
85	8170-0442 CONNECTOR	1	PC	
86	8170-0442 CONNECTOR	1	PC	
87	8170-0442 CONNECTOR	1	PC	
88	8170-0442 CONNECTOR	1	PC	
89	8170-0442 CONNECTOR	1	PC	
90	8170-0442 CONNECTOR	1	PC	
91	8170-0442 CONNECTOR	1	PC	
92	8170-0442 CONNECTOR	1	PC	
93	8170-0442 CONNECTOR	1	PC	
94	8170-0442 CONNECTOR	1	PC	
95	8170-0442 CONNECTOR	1	PC	
96	8170-0442 CONNECTOR	1	PC	
97	8170-0442 CONNECTOR	1	PC	
98	8170-0442 CONNECTOR	1	PC	
99	8170-0442 CONNECTOR	1	PC	
100	8170-0442 CONNECTOR	1	PC	

# YANMAR

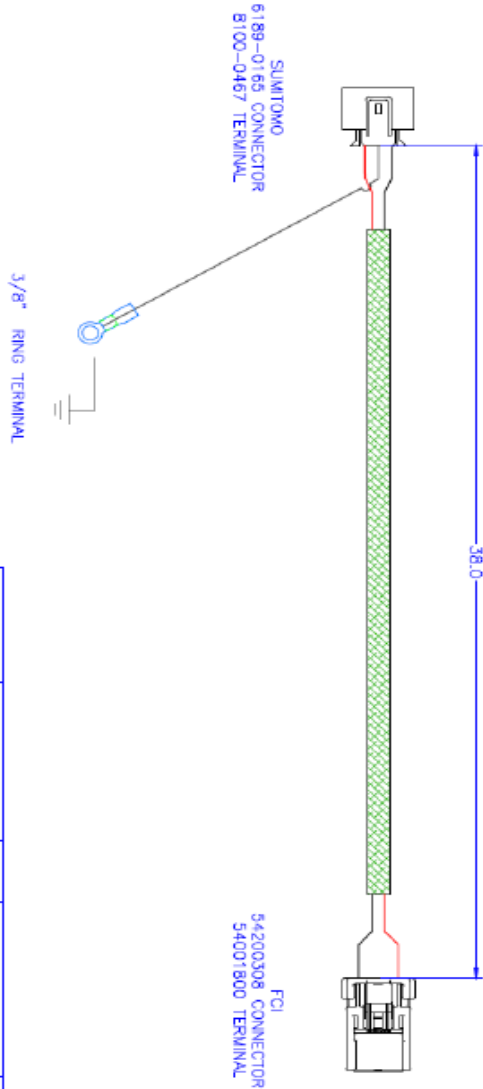
## Installation Instructions





**Installation Instructions**

WIRE NUMBER	COLOR	WIRE GAUGE (INCHES-BSF)	LENGTH	END A CONNECTOR	END A TERMINAL/SEAL	END A PORT	END B CONNECTOR	END B TERMINAL/SEAL	END B PORT	WIRE FUNCTION
W1	RED	16 AWG	40.0	6189-0165	6100-0467	3	54200308	54001800	1	SOLENOID HOLD, B+
W2	WHITE	XX AWG	40.0	6189-0165	6100-0467	1	54200308	54001800	3	SOLENOID PULL, B+
W3	BLACK	XX AWG	12.0	6189-0165	6100-0467	2	-	3/8" RING	-	SOLENOID GROUND, B-



- NOTES
1. ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.
  2. WIRE LENGTH TOLERANCE TO BE +/-0.127" UNLESS OTHERWISE NOTED.
  3. LOOM TO EXTEND WITHIN 1" OF WIRE ENTRY TO CONNECTOR/TERMINAL AS SHOWN ABOVE.
  4. ALL CONNECTIONS TO BE CRIMPED, SOLDERED, HEAT SHRINK.
  5. MAIN HARNESS TO BE LABELED WITH PART NUMBER, REV LEVEL, DATE, VENDOR ID.

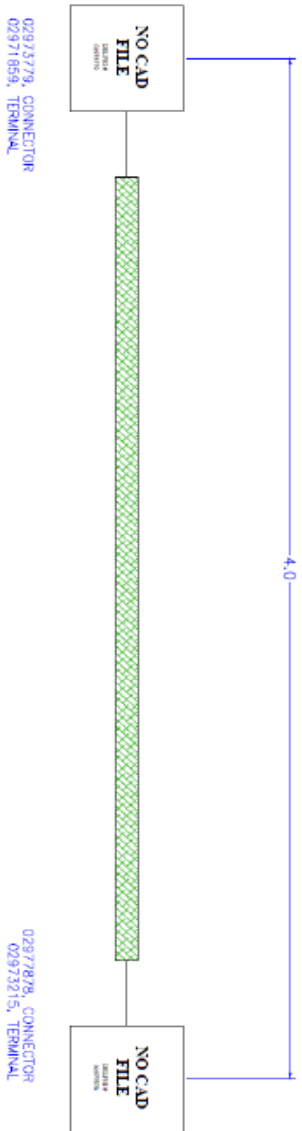
WIRE CONNECTIONS		WIRE GAUGE		WIRE COLOR		WIRE FUNCTION	
WIRE NO.	WIRE GAUGE	WIRE COLOR	WIRE FUNCTION	WIRE NO.	WIRE GAUGE	WIRE COLOR	WIRE FUNCTION
W1	16 AWG	RED	SOLENOID HOLD, B+	W2	XX AWG	WHITE	SOLENOID PULL, B+
W3	XX AWG	BLACK	SOLENOID GROUND, B-				

WIRE NO.	119749-91190	AS
WIRE GAUGE		
WIRE COLOR		
WIRE FUNCTION		



WIRE NUMBER	COLOR	WIRE GAUGE	LENGTH (INCHES-REF)	END A CONNECTOR	END A TERMINAL/SEAL	END A PORT	END B CONNECTOR	END B TERMINAL/SEAL	END B PORT	WIRE FUNCTION
W1	WHITE	16 AWG	4.0	02973279	02977859	1	02977878	02973215	1	CRANK SIGNAL



- NOTES
1. ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.
  2. WIRE LENGTH TOLERANCE TO BE +/-0.127" UNLESS OTHERWISE NOTED.
  3. LOOK TO EXTEND WITHIN 1" OF WIRE ENTRY TO CONNECTOR/TERMINAL AS SHOWN ABOVE.
  4. ALL CONNECTIONS TO BE CRIMPED, SOLDERED, HEAT SHRINK.
  5. MAIN HARNESS TO BE LABELED WITH PART NUMBER, REV/LEVEL DATE, VENDOR ID.

WIRE NO.	WIRE GAUGE	WIRE COLOR	WIRE LENGTH	END A CONNECTOR	END A TERMINAL/SEAL	END B CONNECTOR	END B TERMINAL/SEAL	WIRE FUNCTION
W1	16 AWG	WHITE	4.0	02973279	02977859	02977878	02973215	CRANK SIGNAL

YANMAR CO. LTD	YANMAR AMERICA CORP
HARNESS ASSY, STARTER	
TIER4-L19KW, YA KIT	
Part No.	119749-91180
Rev	AJ