

PART LIST

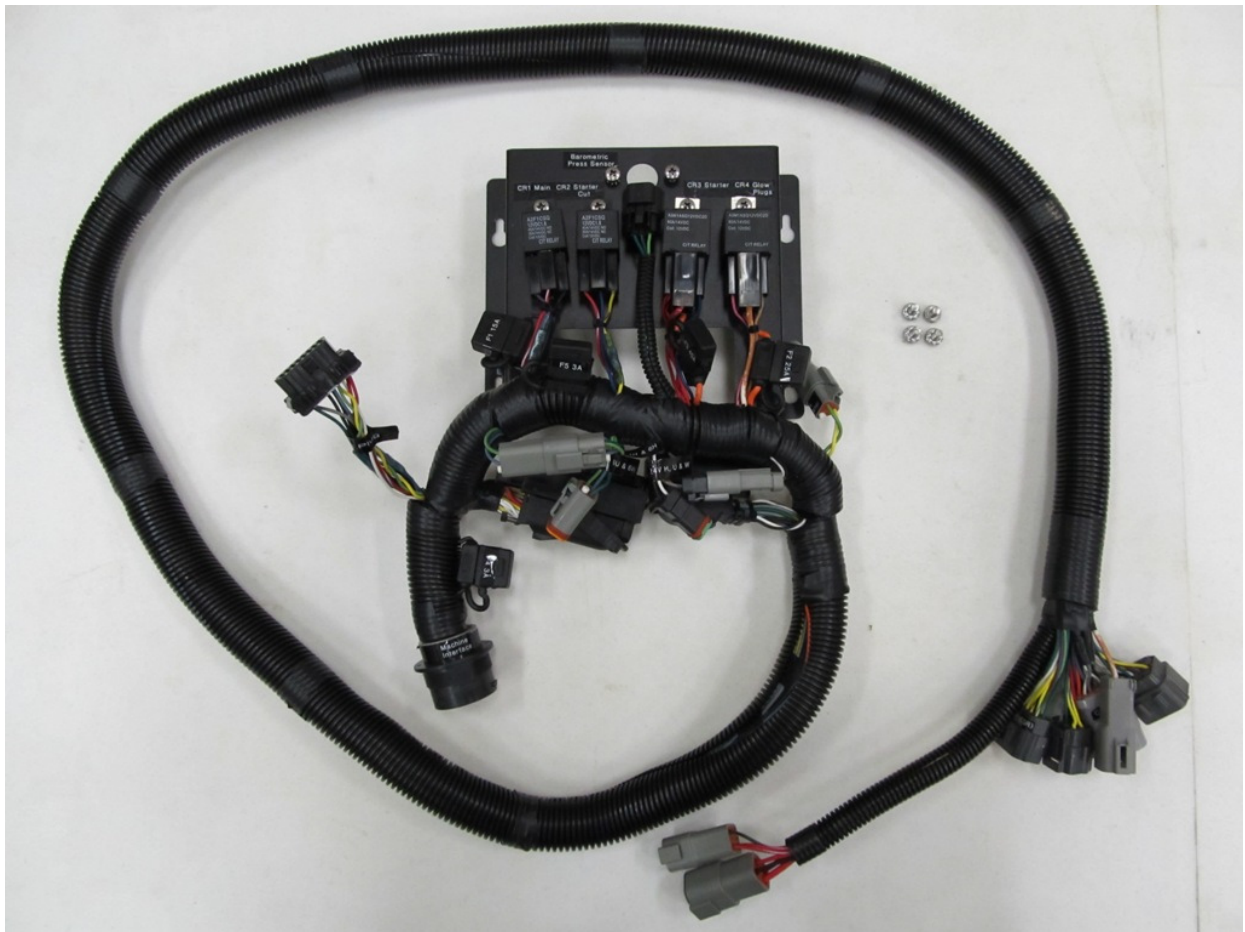
GROUP NUMBER: 5Y3-114

LINE	PART NUMBER	QTY	PART OR GROUP DESCRIPTION
1	998-3200-12	1	ECM HARNESS, 12V
2	116-0018-00	1	ECM BRKT

NOTE 1: If used on 24V engine, “24V Relays” group 5Y3-120 is required.

NOTE 2: Engine Shutdown Relay/Module system is not included in 5Y3-114 and would need to be sourced by customer if desired.

(see instructions on pages 2 through 4)



REVISION:

●6/21/2011 – Deleted “Brkt &” from Item 1 description; added Item 2 (corrections) (per EN-100817).

**ALL Tier 3 electronic common rail
4JJ1TYGV01-410 (Interim Tier 4)
MODEL USAGE: 4JJ1TYGV01-410H (Interim Tier 4)**

DESCRIPTION: ECM BRKT & HARNESS, 12V

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Instructions:

Ensure that supplemental harness (5Y5-134, purchased separately) is not connected to battery terminals.
 Ensure that 12V relays are installed for 12V engine, and 24V relays (5Y3-120, purchased separately) are installed for 24V engine.
 Ensure that appropriate connectors (12V+4J or 24V-4J, 4J+4H+6H or 6U+6W) are plugged in to correspond to the engine model and voltage being used.
 Install ECM and barometric pressure sensor (both included with engine) to bracket using provided hardware.
 Connect ECM harness to engine harness (included on engine) and to supplemental harness (purchased separately)
 Connect machine interface circuits to machine interface connector (MIC) per information below:
 Connect supplemental harness to battery terminals, and start/run the engine and check control functions.

Machine Interface Connector (MIC):

PIN	Function	Circuit connects to:	Additional explanation:
1	Battery Negative / Ground	Battery negative terminal	supplies ground to controls
2	Battery Positive (B+)	Battery positive terminal via fuse F4 (3A)	supplies B+ to controls
3	Key Switch Ignition	ECM terminal V24	switch supplies B+ to ECM terminal to activate
4	Key Switch Start	ECM terminal V46 + starter relay coil B+ input	switch supplies B+ to ECM terminal to activate
5	Switch; Idle Manual	ECM terminal V29	switch supplies B+ to ECM terminal to activate
6	Switch; Idle Up (Increase Speed)	ECM terminal V30	switch supplies B+ to ECM terminal to activate
7	Switch; Idle Down (Decrease Speed)	ECM terminal V31	switch supplies B+ to ECM terminal to activate
8	CAN HIGH (twisted with CAN LOW)	ECM terminal V18	bi-directional digital communication
9	CAN LOW (twisted with CAN HIGH)	ECM terminal V37	bi-directional digital communication
10	Switch; Mode MAP0	ECM terminal V49 (6U/6W: V25)	switch supplies B+ to ECM terminal to activate
11	Switch; Mode MAP1	ECM terminal V50 (6U/6W: V34)	switch supplies B+ to ECM terminal to activate
12	Switch; Mode MAP2	ECM terminal V51 (6U/6W: V48)	switch supplies B+ to ECM terminal to activate
13	LED: Preheat (Amber), also CAN message	ECM terminal V11	ECM terminal closes to ground to illuminate LED
14	APS (Speed Potentiometer) Supply	ECM terminal V42	ECM terminal provides 5V to APS
15	APS (Speed Potentiometer) Signal 1	ECM terminal V63	APS provides position signal to ECM terminal
16	APS (Speed Potentiometer) Signal 2	ECM terminal V64	APS provides position signal to ECM terminal
17	APS (Speed Potentiometer) Return	ECM terminal V41	APS ground return to ECM terminal
18	APS (Speed Potentiometer) Shield	ECM terminal V20	Shields APS supply, signal 1, signal 2, and return circuits from external interference
19	ECM Power ON indicator LED (Green) and/or B+ to CAN Controller or Display	ECM main relay output via fuse F5 (3A)	ECM relay provides B+ to LED and/or CAN Display (Murphy PowerView, for example) when ECM main power is ON
20	LED; Diagnostic (Amber), also CAN message	ECM terminal V6	ECM terminal closes to ground to illuminate LED
21	Switch; Diagnostic, also CAN message	ECM terminal V52	switch supplies ground to ECM terminal to activate
22	Switch; Memory Clear, also CAN message	ECM terminal V32	switch supplies ground to ECM terminal to activate
23	LED; Oil Pressure (Red), also CAN message	ECM terminal V17	ECM terminal closes to ground to illuminate LED
24	LED; Overheat (Red), also CAN message	ECM terminal V15 + Engine harness 6-pin G con terminal 4 (G04)	ECM terminal closes to ground to illuminate LED + switch terminal closes to ground to illuminate LED
25	LED; Overspeed (Red), also CAN message	ECM terminal E102	ECM terminal closes to ground to illuminate LED
26	LED; Boost Temp (Red), also CAN message	ECM terminal V7	ECM terminal closes to ground to illuminate LED
27	Switch; Regulation Mode	ECM terminal V33	switch supplies B+ to ECM terminal to activate droop mode
28	Switch; Load Advance	ECM terminal V45	switch supplies B+ to ECM terminal to activate
29	Relay; Hourmeter, also CAN message	ECM terminal V14 (relay; starter cut)	ECM terminal closes to ground to energize relay coil
30	Meter / gage; water temp (OEM), also CAN message	Eng harness 6-pin G con terminal 6 (G06)	sensor to terminal provides signal to meter / gage
31	Tachometer, also CAN message	ECM terminal V8	ECM terminal provides signal to tachometer

Same as circuits in MIC in prior ECM enclosures (without controls) 5Y3-089, 5Y3-094, and 5Y3-095.

Required for optional, add-on diagnostic switch, diagnostic lamp, and memory clear switch (also added to 16-pin data link connector (DLC) for optional mini diagnostic tool

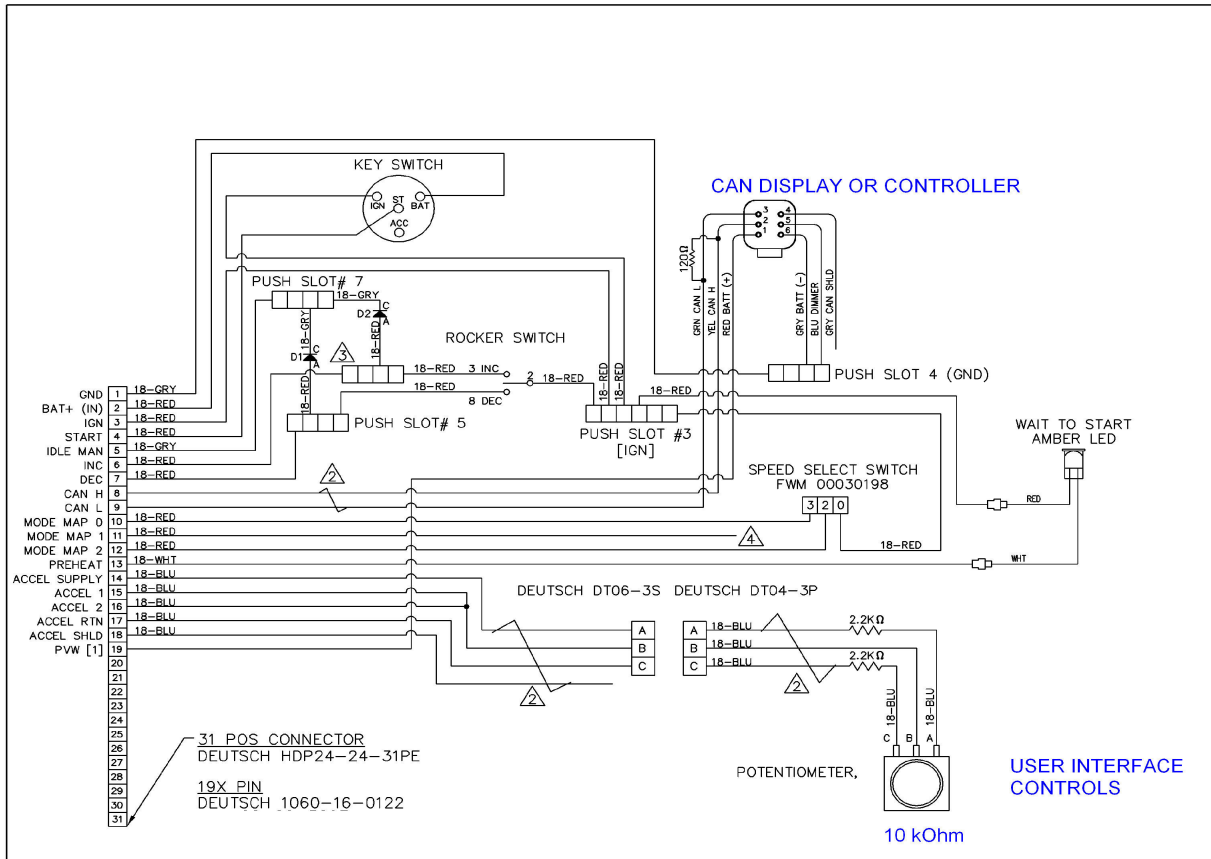
Required for optional, add-on engine shutdown relay / module and/or indicator lamps for simple equipment that does not use CAN displays or CAN controllers

Available circuits from ECM, engine, and alternator for more flexibility for simple equipment that does not use CAN displays or CAN controllers

MIC Connector = Deutsch 31-pin bulkhead receptacle with pins

Housing P/N	Deutsch HDP24-24-31PE	Bulkhead receptacle for use with male pins
Terminal P/N	Deutsch 1060-16-0122	Size 16 male pins
Mating Connector for above MIC Connector = Deutsch 31-pin twist lock ring plug with sockets		
Housing P/N	Deutsch HDP26-24-31SE	Twist lock ring plug for use with female sockets
Terminal P/N	Deutsch 1062-16-0122	Size 16 female sockets
Hand Crimp Tool P/N	Deutsch HDT-48-00	for size 20, 16, and 12 contacts, \$187 as of 2/9/2010
Deutsch distributor in USA	http://www.laddinc.com/	Carol Hartke 800-223-1236, carolh@LADDINC.COM

REFERENCE: Machine-side circuit diagram for PINS 1 through 19



Enhanced ISUZU Tier 3 diagnostic connector

16 BATTERY B+ OUTPUT VIA FUSE F4	15	14 CAN LOW	13 MEMORY CLEAR	12	11	10	9 DIAGNOSTIC LAMP
8 IGNITION B+ OUTPUT VIA FUSE F5	7 KWP2000	6 CAN HIGH	5 GROUND	4 GROUND	3	2	1 DIAGNOSTIC SWITCH

Tier 3 and Interim Tier 4 ECM speed control inputs

ANALOG / BINARY

		ISZA PT	
		31-PIN CONNECTOR	Tier 3
ECM SPEED MODE	B+ connected to:	MAP 0	10
		MAP 1	11
		MAP 2	12
B+ = battery system voltage			
POT = potentiometer	connected to:	5V1	14
		ACCEL1	15
		ACCEL2	16
		5VRT1	17
		SLD1	18
V42 V63 V64 V41 V20			
INC/DEC = increase / decrease rocker switch			
INC	B+ connected to:	IDLE MANUAL (via diode)	5
		IDLE UP	6
DEC	B+ connected to:	IDLE MANUAL (via diode)	5
		IDLE DOWN	7
			V29 V30 V29 V31

DIGITAL

		ISZA PT	
		31-PIN CONNECTOR	Tier 3
CAN = SAEJ1939 CANBUS speed request	connected to:	CAN HI	8
		CAN LO	9
			V18 V37

NOTE: CAN speed request overrides ANALOG / BINARY speed inputs.

GENSET (CONSTANT-SPEED) ENGINE ECM

ENGINE SPEC (TIER 3)	ECM SPEED MODE	MAP 0 INPUT	MAP 1 INPUT	MAP 2 INPUT	FACTORY DEFAULT RPM	VARIABLE SPEED CONTROL	RATE OF CHG RPM/S	FACTORY MIN RPM	FACTORY MAX RPM	REMARKS
4HK1XYGV01	H	0	0	0	POT POS	POT	N/A	1000	1800	After key off, pot must be placed in MIN position before MAX RPM can be obtained.
4HK1XYGV01	S	B+	0	0	POT POS	POT	N/A	1000	1800	After key off, pot must be placed in MIN position before MAX RPM can be obtained.
4HK1XYGV01	L	0	B+	0	POT POS	POT	N/A	1000	1800	After key off, pot must be placed in MIN position before MAX RPM can be obtained.
4HK1XYGV01	B	B+	B+	0	POT POS	POT	N/A	1000	1800	After key off, pot must be placed in MIN position before MAX RPM can be obtained.
4HK1XYGV01	I	0	0	B+	1500	INC/DEC	3	500	~1720	Last speed setting is NOT memorized after ECM power off as new default.
4HK1XYGV01	LM	B+	0	B+	1500	INC/DEC	3	500	2070	Last speed setting is NOT memorized after ECM power off as new default.

Engine shuts down (overspeed setting) -- ECM must be powered off, then engine can be restarted, and speed defaults to 1500 RPM.

HIGH-SPEED (VARIABLE-SPEED) ENGINE ECM

ENGINE SPEC (TIER 3)	ECM SPEED MODE	MAP 0 INPUT	MAP 1 INPUT	MAP 2 INPUT	FACTORY DEFAULT RPM	VARIABLE SPEED CONTROL	RATE OF CHG RPM/S	FACTORY MIN RPM	FACTORY MAX RPM	REMARKS
4HK1XYBW01	H	0	0	0	POT POS	POT	N/A	800	2100	After key off, pot must be placed in MIN position before MAX RPM can be obtained.
4HK1XYBW01	S	B+	0	0	POT POS	POT	N/A	800	2000	After key off, pot must be placed in MIN position before MAX RPM can be obtained.
4HK1XYBW01	L	0	B+	0	POT POS	POT	N/A	800	1900	After key off, pot must be placed in MIN position before MAX RPM can be obtained.
4HK1XYBW01	B	B+	B+	0	POT POS	POT	N/A	800	1800	After key off, pot must be placed in MIN position before MAX RPM can be obtained.
4HK1XYBW01	I	0	0	B+	1800	INC/DEC	10	500	2100	Last speed setting IS memorized after ECM power off as new default.
4HK1XYBW01	LM	B+	0	B+	2000	INC/DEC	10	500	2100	Last speed setting IS memorized after ECM power off as new default.

Values shown in charts above are examples for explanatory purposes only.

MAX RPM limit for POT can be adjusted using INC/DEC switch.
Last MAX RPM limit IS memorized after key or battery off as new default.
MIN RPM fixed preset speed is possible if POT is fixed in the minimum position.