



Bill of Materials				
Id	Type	Manufacturer	Part Number	Quantity
1	Connector	Sumitomo Electric	6187-2311	1
2	Connector	Sumitomo Electric	6180-2321	4
3	Connector		2 Cavity	2
5	Connector		3 Cavity	1
8	Wire		20 AWG Red	4.25 m
9	Wire		20 AWG Black	4.95 m
10	Wire		20 AWG Yellow	2.4 m
11	Wire		20 AWG Green	2.4 m
12	Wire		20 AWG Orange	620 cm
14	Wire		20 AWG Blue	2.2 m
15	Wire		20 AWG White	205 cm
16	Connector	Sumitomo Electric	6180-4771	1
19	Wire		20 AWG Brown	420 cm
20	Wire		20 AWG White-Orange	4.2 m
21	Wire		20 AWG White-Brown	420 cm
22	Wire		20 AWG Violet	2.2 m
24	Label		Generic White Label	17
25	Wire		20 AWG Pink	2.2 m
29	Connector	Furukawa Electric	FW-C-2F-B	2
30	Connector	Furukawa Electric	FW-C-2M-B	2
31	Connector	Sumitomo Electric	6040-2111	1
32	Connector	Sumitomo Electric	6030-2981	1
33	Connector		Generic 3 Way Joint	5
34	Connector		23 Cavity	1
35	Connector	Sumitomo Electric	6187-2311	3

Title	Top Level	Part Number	RaceTrec RBW Harness
Description	RaceTrec Ride By Wire Connection Harness		Revision v0.3

Drawn By	----	Date	----
Eng Approved	----	----	----
Mfg Approved	----	----	----
QA	----	----	----



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<b>Title:</b>	Bill of Materials
<b>Part Number:</b>	RaceTrec RBW Harness
<b>Description:</b>	RaceTrec Ride By Wire Connection Harness



Id	Type	Manufacturer	Part Number	Description	Quantity	Usage
1	Connector	Sumitomo Electric	6187-2311		1	REAR_SPEED_FEMALE
2	Connector	Sumitomo Electric	6180-2321	Mt Series, 2WF Sld Hsg Natural	4	FRONT_BRAKE_MALE, FRONT_SPEED_MALE, REAR_BRAKE_MALE, REAR_SPEED_MALE
3	Connector		2 Cavity	Generic Connector	2	AB, QS
5	Connector		3 Cavity	Generic Connector	1	SERVO
8	Wire		20 AWG Red	Generic Wire	4.25 m	W1, W5, W27
9	Wire		20 AWG Black	Generic Wire	4.95 m	W2, W6, W8, W9, W10, W11, W12, W13, W14, W28
10	Wire		20 AWG Yellow	Generic Wire	2.4 m	W3, W26, W42, W43
11	Wire		20 AWG Green	Generic Wire	2.4 m	W4, W31, W44, W45
12	Wire		20 AWG Orange	Generic Wire	620 cm	W7, W16, W19
14	Wire		20 AWG Blue	Generic Wire	2.2 m	W23, W40, W41
15	Wire		20 AWG White	Generic Wire	205 cm	W29
16	Connector	Sumitomo Electric	6180-4771	4WF Mt Series Sld Hsg Nat	1	VEHICLE_DEBUG_PORT
19	Wire		20 AWG Brown	Generic Wire	420 cm	W21, W33
20	Wire		20 AWG White-Orange	Generic Wire	4.2 m	W20, W35
21	Wire		20 AWG White-Brown	Generic Wire	420 cm	W22, W34
22	Wire		20 AWG Violet	Generic Wire	2.2 m	W17, W38, W39
24	Label		Generic White Label	Generic Label	17	See Drawing
25	Wire		20 AWG Pink	Generic Wire	2.2 m	W32, W36, W37
29	Connector	Furukawa Electric	FW-C-2F-B		2	CYLINDER_1_FEMALE, CYLINDER_2_FEMALE
30	Connector	Furukawa Electric	FW-C-2M-B		2	CYLINDER_1_MALE, CYLINDER_2_MALE
31	Connector	Sumitomo Electric	6040-2111	MTW110(2.8MM)2WF Unslid Hsg Nat	1	CLUTCH_MALE
32	Connector	Sumitomo Electric	6030-2981	MTW110(2.8MM)2WM Unslid Hsg Nat	1	CLUTCH_FEMALE
33	Connector		Generic 3 Way Joint		5	CLUTCH_JOINT, FRONT_BRAKE_JOINT, FRONT_SPEED_JOINT, REAR_BRAKE_JOINT, REAR_SPEED_JOINT
34	Connector		23 Cavity	Generic Connector	1	MASTER
35	Connector	Sumitomo Electric	6187-2311	Mt Series 090 2WM Sld Hsg Nat	3	FRONT_BRAKE_FEMALE, FRONT_SPEED_FEMALE, REAR_BRAKE_FEMALE



<b>Title:</b>	Wiring Table
<b>Part Number:</b>	RaceTrec RBW Harness
<b>Description:</b>	RaceTrec Ride By Wire Connection Harness

From	To	Conductor	Conductor PN	Twisted With	Gauge	Length	From Contact PN	Notes
AB.1	MASTER.22	W33.Brown	20 AWG Brown		20 AWG	210 cm		
AB.2	MASTER.23	W34.White-Brown	20 AWG White-Brown		20 AWG	210 cm		
CLUTCH_FEMALE.1	CLUTCH_MALE.1	W13.Black	20 AWG Black		20 AWG	10 cm		
CLUTCH_JOINT.2	CLUTCH_FEMALE.2	W32.Pink	20 AWG Pink		20 AWG	10 cm		
CLUTCH_JOINT.3	CLUTCH_MALE.2	W36.Pink	20 AWG Pink		20 AWG	10 cm		
CYLINDER_1_FEMALE.1	CYLINDER_1_MALE.1	W12.Black	20 AWG Black		20 AWG	10 cm		
CYLINDER_2_FEMALE.1	CYLINDER_2_MALE.1	W11.Black	20 AWG Black		20 AWG	10 cm		
CYLINDER_2_FEMALE.2	MASTER.5	W21.Brown	20 AWG Brown		20 AWG	210 cm		
CYLINDER_2_MALE.2	MASTER.6	W22.White-Brown	20 AWG White-Brown		20 AWG	210 cm		
FRONT_BRAKE_FEMALE.1	FRONT_BRAKE_MALE.1	W10.Black	20 AWG Black		20 AWG	10 cm		
FRONT_BRAKE_JOINT.2	FRONT_BRAKE_MALE.2	W38.Violet	20 AWG Violet		20 AWG	10 cm		
FRONT_BRAKE_JOINT.3	FRONT_BRAKE_FEMALE.2	W39.Violet	20 AWG Violet		20 AWG	10 cm		
FRONT_SPEED_FEMALE.1	FRONT_SPEED_MALE.1	W9.Black	20 AWG Black		20 AWG	10 cm		
FRONT_SPEED_JOINT.2	FRONT_SPEED_FEMALE.2	W23.Blue	20 AWG Blue		20 AWG	10 cm		
FRONT_SPEED_JOINT.3	FRONT_SPEED_MALE.2	W40.Blue	20 AWG Blue		20 AWG	10 cm		
MASTER.1	REAR_SPEED_JOINT.1	W26.Yellow	20 AWG Yellow		20 AWG	2 m		
MASTER.2	FRONT_SPEED_JOINT.1	W41.Blue	20 AWG Blue		20 AWG	2 m		
MASTER.3	CYLINDER_1_FEMALE.2	W19.Orange	20 AWG Orange		20 AWG	2.1 m		
MASTER.4	CYLINDER_1_MALE.2	W20.White-Orange	20 AWG White-Orange		20 AWG	2.1 m		
MASTER.7	FRONT_BRAKE_JOINT.1	W17.Violet	20 AWG Violet		20 AWG	2 m		
MASTER.8	CLUTCH_JOINT.1	W37.Pink	20 AWG Pink		20 AWG	2 m		
MASTER.19	REAR_BRAKE_JOINT.1	W31.Green	20 AWG Green		20 AWG	2 m		
POT_5V	MASTER.12	W27.Red	20 AWG Red		20 AWG	205 cm		
POT_GND	MASTER.13	W28.Black	20 AWG Black		20 AWG	205 cm		
POT_SIG	MASTER.14	W29.White	20 AWG White		20 AWG	205 cm		
QS.1	MASTER.20	W16.Orange	20 AWG Orange		20 AWG	210 cm		
QS.2	MASTER.21	W35.White-Orange	20 AWG White-Orange		20 AWG	210 cm		
REAR_BRAKE_FEMALE.1	REAR_BRAKE_MALE.1	W14.Black	20 AWG Black		20 AWG	10 cm		
REAR_BRAKE_JOINT.2	REAR_BRAKE_FEMALE.2	W44.Green	20 AWG Green		20 AWG	10 cm		
REAR_BRAKE_JOINT.3	REAR_BRAKE_MALE.2	W45.Green	20 AWG Green		20 AWG	10 cm		
REAR_SPEED_FEMALE.1	REAR_SPEED_MALE.1	W8.Black	20 AWG Black		20 AWG	10 cm		
REAR_SPEED_JOINT.2	REAR_SPEED_FEMALE.2	W43.Yellow	20 AWG Yellow		20 AWG	10 cm		
REAR_SPEED_JOINT.3	REAR_SPEED_MALE.2	W42.Yellow	20 AWG Yellow		20 AWG	10 cm		
SERVO.1	MASTER.9	W5.Red	20 AWG Red		20 AWG	2 m		
SERVO.2	MASTER.10	W6.Black	20 AWG Black		20 AWG	2 m		
SERVO.3	MASTER.11	W7.Orange	20 AWG Orange		20 AWG	2 m		
VEHICLE_DEBUG_PORT.1	MASTER.15	W1.Red	20 AWG Red		20 AWG	20 cm		
VEHICLE_DEBUG_PORT.2	MASTER.16	W2.Black	20 AWG Black		20 AWG	20 cm		
VEHICLE_DEBUG_PORT.3	MASTER.17	W3.Yellow	20 AWG Yellow		20 AWG	20 cm		
VEHICLE_DEBUG_PORT.4	MASTER.18	W4.Green	20 AWG Green		20 AWG	20 cm		

<b>Title:</b>	Cutlist
<b>Part Number:</b>	RaceTrec RBW Harness
<b>Description:</b>	RaceTrec Ride By Wire Connection Harness



#	Type	Reference Designator	Manufacturer	Part Number	Color	Gauge	Length	Twisted With
1	Wire	W1		20 AWG Red	Red	20 AWG	20 cm	
2	Wire	W2		20 AWG Black	Black	20 AWG	20 cm	
3	Wire	W3		20 AWG Yellow	Yellow	20 AWG	20 cm	
4	Wire	W4		20 AWG Green	Green	20 AWG	20 cm	
5	Wire	W5		20 AWG Red	Red	20 AWG	2 m	
6	Wire	W6		20 AWG Black	Black	20 AWG	2 m	
7	Wire	W7		20 AWG Orange	Orange	20 AWG	2 m	
8	Wire	W8		20 AWG Black	Black	20 AWG	10 cm	
9	Wire	W9		20 AWG Black	Black	20 AWG	10 cm	
10	Wire	W10		20 AWG Black	Black	20 AWG	10 cm	
11	Wire	W11		20 AWG Black	Black	20 AWG	10 cm	
12	Wire	W12		20 AWG Black	Black	20 AWG	10 cm	
13	Wire	W13		20 AWG Black	Black	20 AWG	10 cm	
14	Wire	W14		20 AWG Black	Black	20 AWG	10 cm	
15	Wire	W16		20 AWG Orange	Orange	20 AWG	210 cm	
16	Wire	W17		20 AWG Violet	Violet	20 AWG	2 m	
17	Wire	W19		20 AWG Orange	Orange	20 AWG	2.1 m	
18	Wire	W20		20 AWG White-Orange	White-Orange	20 AWG	2.1 m	
19	Wire	W21		20 AWG Brown	Brown	20 AWG	210 cm	
20	Wire	W22		20 AWG White-Brown	White-Brown	20 AWG	210 cm	
21	Wire	W23		20 AWG Blue	Blue	20 AWG	10 cm	
22	Wire	W26		20 AWG Yellow	Yellow	20 AWG	2 m	
23	Wire	W27		20 AWG Red	Red	20 AWG	205 cm	
24	Wire	W28		20 AWG Black	Black	20 AWG	205 cm	
25	Wire	W29		20 AWG White	White	20 AWG	205 cm	
26	Wire	W31		20 AWG Green	Green	20 AWG	2 m	
27	Wire	W32		20 AWG Pink	Pink	20 AWG	10 cm	
28	Wire	W33		20 AWG Brown	Brown	20 AWG	210 cm	
29	Wire	W34		20 AWG White-Brown	White-Brown	20 AWG	210 cm	
30	Wire	W35		20 AWG White-Orange	White-Orange	20 AWG	210 cm	
31	Wire	W36		20 AWG Pink	Pink	20 AWG	10 cm	
32	Wire	W37		20 AWG Pink	Pink	20 AWG	2 m	
33	Wire	W38		20 AWG Violet	Violet	20 AWG	10 cm	
34	Wire	W39		20 AWG Violet	Violet	20 AWG	10 cm	
35	Wire	W40		20 AWG Blue	Blue	20 AWG	10 cm	
36	Wire	W41		20 AWG Blue	Blue	20 AWG	2 m	
37	Wire	W42		20 AWG Yellow	Yellow	20 AWG	10 cm	
38	Wire	W43		20 AWG Yellow	Yellow	20 AWG	10 cm	
39	Wire	W44		20 AWG Green	Green	20 AWG	10 cm	
40	Wire	W45		20 AWG Green	Green	20 AWG	10 cm	

<b>Title:</b>	Labels
<b>Part Number:</b>	RaceTrec RBW Harness
<b>Description:</b>	RaceTrec Ride By Wire Connection Harness



#	Manufacturer	Part Number	Description	Label Text
1		Generic White Label	Generic Label	AB
2		Generic White Label	Generic Label	CLUTCH
3		Generic White Label	Generic Label	C_1
4		Generic White Label	Generic Label	C_1
5		Generic White Label	Generic Label	C_2
6		Generic White Label	Generic Label	C_2
7		Generic White Label	Generic Label	ECU
8		Generic White Label	Generic Label	F_BRAKE
9		Generic White Label	Generic Label	F_SPEED
10		Generic White Label	Generic Label	IGN
11		Generic White Label	Generic Label	IGN
12		Generic White Label	Generic Label	POT
13		Generic White Label	Generic Label	QS
14		Generic White Label	Generic Label	QS_AB
15		Generic White Label	Generic Label	R_BRAKE
16		Generic White Label	Generic Label	R_SPEED
17		Generic White Label	Generic Label	S_1