Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
	C-Channel	Qıy	FNOIO
AM Kit C-Base Chassis	PN: am-0202	6	17.00
AM Kit C-Base Chassis	Corner Connect PN: am-0212	8	· 有其有
	Gearbox Brace		
AM Kit	Gearbox Brace		
C-Base Chassis	PN : am-0203	2	CBRSE Manufacture (CBRSE Manufacture)
AM Kit	Gearbox Bracket		
C-Base Chassis	PN : am-0204	2	
AM Kit	3/8-16 x 7" screw		
C-Base Chassis	PN : am-1055	4	
AM Kit	1.86 PVC Spacer		
C-Base Chassis	PN : am-0243	4	
AM Kit	2.50 PVC Spacer		0004
C-Base Chassis	PN : am-0244	4	

	2009 Kit of Parts - Checklist		
Container	Part Description & Number	Qty	Photo
AM Kit C-Base Chassis	3/8-16 Nylock Nut PN: 87922050 (MSC)	4	000
AM Kit C-Base Chassis	1/4-20 x 1.75 SHCS PN: 71126155 (MSC)	32	
AM Kit C-Base Chassis	1/4-20 x 5/8 SHCS PN : 80263072 (MSC)	8	
AM Kit C-Base Chassis	1/4-20 Nylock Nut PN: 52591294 (MSC)	40	ffff
AM Kit C-Base Chassis	1/4" Washer PN:	8	0000
AM Kit Loose	Wheel sprocket, 22-tooth #35, #10 mntg holes in a 1.875" D circle, 1.1" bore PN: am-0245	4	
AM Kit Loose	Battery Connector Safety Plug PN: AM-0122	5	

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
AM Kit Loose	Rover wheel (aka 2009 FIRST Slick Wheel) 6" diameter, acetal tread, #10 mntg holes in a 1.875" D circle PN: am-0210	4	
AM Kit Loose	Wheel bearings Double Shielded, ID: 0.375", OD: 1.125", Width: 0.375" PN: am-0209	8	0000
AM Kit Loose	Sprocket spacers #10 mntg holes in a 1.875" D circle PN: am-0207	4	00
AM Kit Toughbox Kit	Mount Plate PN: am-0155	2	000
AM Kit Toughbox Kit	Shaft Plate PN: am-0261	2	
AM Kit Toughbox Kit	Output shaft PN: am-0153	2	
AM Kit Toughbox Kit	Extrusion cover PN: am-0260	2	(Marie Charry)

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
AM Kit Toughbox Kit	Large Cluster Gear PN: am-0149	2	
AM Kit Toughbox Kit	Large Output Gear PN: am-0150	2	
AM Kit Toughbox Kit	Small Hex Shaft PN: am-0152	2	
AM Kit Toughbox Kit	Small Cluster Gear PN: am-0151	2	
AM Kit Toughbox Kit	CIM Gear, 14 Tooth PN: am-0034	4	
AM Kit Toughbox Kit	Spacer PN: Toughbox_d10	4	00
AM Kit Toughbox Kit	FR6ZZ bearing PN: am-0028	6	000

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
AM Kit Toughbox Kit	FR8ZZ bearing PN: am-0030	2	
AM Kit Toughbox Kit	1/4-20 x 2 SHCS PN: 71126239 (MSC)	8	
AM Kit Toughbox Kit	1/4-20 nylock nut PN: 87922035 (MSC)	8	000
AM Kit Toughbox Kit	1/4" washer PN: 2994887 (MSC)	2	0
AM Kit Toughbox Kit	1/4-20 x 1/2 BHC5 PN: 67563007 (MSC)	2	4
AM Kit Toughbox Kit	#10-32 x 1/2" SHCS PN: 9362336 (MSC)	8	S. S
AM Kit Toughbox Kit	2 x 2 x 14mm key PN: am-0032	4	

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
AM Kit Toughbox Kit	1/8" × 1/8" × 0.40 machine key PN: am-1018	2	
AM Kit Toughbox Kit	5/16" clip PN: am-0033	4	CO
AM Kit Toughbox Kit	1/2" E-Klip PN: am-0206	2	3
AM Kit Toughbox Kit	5/16" washer PN: 67491605 (MSC)	8	000
Controls Kit Bottom	Camera, Axis 206 206 color camera, MJPEG, 16MB RAM, 4MB Flash, 4mm lens, F2.0 PN: 288635	1	an or or bank from
Controls Kit Bottom	Radio, Driver Station Simultaneous Dual-N Band Wireless Router, 2.4GHz & 5 GHz (includes adapter, ethernet PN: WRT610N	1	
Controls Kit Bottom	Radio, Robot Dual-Band Wireless-N Gaming Adapter (includes adapter, ethernet cable, etc) PN: WGA600N	1	0 : 111

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Controls Kit Bottom	Speed Controller (Jaguar) Stellaris Brushed DC motor PN: MDL-BDC	4	
Controls Kit Bottom	Joystick, Attack 3 11 programmable buttons, USB, symmetrical handle PN: 963291-0403	2	
Controls Kit Bottom (NI Box)	Mobile Device Controller compactRIO, 400 MHz Freescale MPC5200 processor PN: NI-cRIO-FRC	1	
Controls Kit Bottom (NI Box)	Analog Input Module 8 analog inputs, ±10 V input range, 500 kS/s aggregate sampling rate, 12-bit resolution PN: 9201	2	
Controls Kit Bottom (NI Box)	Digital I/O Module 32-channel digital I/O, 5 V/TTL, sinking/sourcing digital I/O, 1000 Vrms transient isolation, ±30 V PN: 9403	2	
Controls Kit Bottom (NI Box)	Digital Sourcing Module 8-channel, 100 µs digital output, 6 to 30 V range, sourcing digital output PN: 9472	1	
Controls Kit Top	Control Layout PN:	1	2000 FIX CONTROL LANGET

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Controls Kit Top Tray	Breakout board mounting hardware 4-40 × 0.75" PN: 92196A113	6	
Controls Kit Top Tray	Adapter, camera, 2-lead use this adapter for power from your robot, use the adapter in the camera box for power from an PN: SA106A-0512-6	1	AKS A
Controls Kit Top Tray	DB37 Extension Cable 3ft, beige, Male/Female PN: 02688	2	
Controls Kit Top Tray	Dongle Enable/disable dongle for Driver Station, DE9 connector PN:	1	31
Controls Kit Top Tray	Wire, 14AWG, Red PN:	1	
Controls Kit Top Tray	Wire, 10AWG, Red PN:	1	
Controls Kit Top Tray	Wire, 10AWG, Black PN:	1	

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Controls Kit Top Tray	Power connector, Wago 2-pole PN: 734-102	6	
Controls Kit Top Tray	Analog Breakout PN: A003266	2	MARADON SIZE (HIC)
Controls Kit Top Tray	Solenoid Breakout PN: A003265	1	REAY 50.47 (e)(-)
Controls Kit Top Tray	Power Distribution Board 8 40A outputs, 12 20/30A outputs, 5V, 12V, & 24V regulated outputs PN: A003206	1	
Controls Kit Top Tray	Digital SideCar PN: A003333	2	
Controls Kit Top Tray	Jumper female, 2-pin shunt PN: 68786-102LF	4	
Controls Kit Top Tray	Servo 42 oz./in. peak torque, 0.19 sec./60° PN: HS-322HD OR HS-325HD	2	15.322M

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Controls Kit Top Tray	Relay Module (Spike) 12V, 20A Max PN: SPIKE-RELAY-H	2	SIGNATURE STATE OF THE STATE OF
Controls Kit Top Tray	Speed Controller (Victor 884) VICTOR-884-12-12 PN: FR-VIC884	1	Innovation First VYCTOR SES
Controls Kit Top Tray	Driver Station PN: DS-06062008-1.0	1	The second secon
Controls Kit Top Tray	AC Adapter (for Driver Station) 12VDC/1000mA,F2, 2.1mm × 5.5mm,UL/CSA PN: 100870	1	
Controls Kit Top Tray	Power connector, cRio female, 4 poles PN: CTF040V8	2	
Controls Kit Top Tray	FRC Software Bundle LabVIEW for FRC, WindRiver PN:	1	And to least
Controls Kit Top Tray	National Instruments Literature Packet PN:	1	For the second s

	2009 Kit of Parts - Checklist		
Container	Part Description & Number	Qty	Photo
Controls Kit Top Tray	2-wire jumper cable 24" PN: 03203	5	
Controls Kit Top Tray	Servo Y-splitter cable 12" PN: 788 (modified, plastic covers removed)	2	
Controls Kit Top Tray	RC Extension cable 36", 22AWG wire, male/female PN: RC-218FJ36	8	
Controls Kit Top Tray	20Amp circuit breaker auto-reset PN: VB3-A20-F57	5	
Controls Kit Top Tray	30Amp circuit breaker auto-reset PN: VB3-A30-F57	2	
Controls Kit Top Tray	40Amp circuit breaker auto-reset PN: MX5-A40	4	
Controls Kit Top Tray	Cable Assembly, Ethernet 2ft, gray PN: 219241-2	1	Approximate a property of the

	2009 Kit of Parts - Checklist		
Container	Part Description & Number	Qty	Photo
Controls Kit	Cable Assembly, Ethernet crossover 5ft, orange	1	The second secon
Top Tray	PN : 219153-3		
Controls Kit	Wire, 18AWG, Red		
Top Tray	PN:	1	
 Controls Kit	Wago Tool		A A
Top Tray	PN:	1	муная
Controls Kit	Wind River Installation Notes		The second secon
Top Tray	PN:	1	The state of the s
Flowers Tote	Brass bag	_	
Brass fittings bag	PN : PKT12326	1	PASS BASS BASS CT
Flowers Tote	Wire, 6AWG, Black 10', #6 AWG, Black		
Loose	PN : M3391-101	1	
Flowers Tote	Wire, 6AWG, Red 10', #6 AWG, Red		
Loose	PN : M3391-102	1	

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Flowers Tote Loose	Denso Window Motor - Left 12V DC PN: 262100-3040	1	
Flowers Tote Loose	Denso Window Motor - Right 12V DC PN: 262100-3030	1	
Flowers Tote Loose	Compact Fan (Large) 12 Vdc PN: 4212/12H-520 or 4212/2-534	2	
Flowers Tote Loose	Terminal Lugs 6-14 ga solderless lug, mechanical PN: KPA4CUP	8	Political Control of the Control of
Flowers Tote Loose	Tie wraps, 4" UNIRAP, 4", black, 100 ct PN: CT18075C	1	Control 40 Control Con
Flowers Tote Loose	Tie wraps, 8" UNIRAP, 8", black, 100 ct PN: CT50175C	1	
Flowers Tote Loose	Terminal Lugs 6-14 ga solderless lug, compression, copper PN: YAZV6CTC14FX	8	UNDOCUMENT OF THE PARTY OF THE

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Flowers Tote Loose	Motor/Gearbox assembly 12VDC w/ 19 tooth pinion, -9015 motor PN: 00968-2910	2	
Flowers Tote Loose	Pnuematic tubing, yellow (1/4 OD × 0.160 ID) × 50' length PN: 1J-151-48P-FW	1	
Flowers Tote Loose	Air Compressor 12VDC PN: 405ADC38/12	1	
Flowers Tote Loose	Globe Motor 12Vdc with drive assembly PN: 409A587	2	
Flowers Tote Loose	Lead Screw w/ nut PN: BF6029 or BF7030 x 13"	1	4
Flowers Tote Loose	Keyang motor, 12-tooth PN: 16631023	1	
Flowers Tote Loose	Pool Noodle Sample bumper material PN:	1	

	Container	2009 Kit of Parts - Checklist Part Description & Number	O±v	Photo
	container	Flowers Tote	Qty	PROTO
	Flowers Tote			
		27" x 17" x 12", Attached lid	1	FLOWERS
	Loose	811 B00747 40		
		PN : DC2717-12		
	Flowers Tote	Battery Charger		6
		12V, 6Amp automatic	1	SPEEDS IN I
	Loose		1	
		PN : SC-600A		
	Flowers Tote	Lazy Susan		
		12"		
Ш	Loose		1	
		PN : 12C		
	Kamen Tote	IEC Rotary Limit Switch		
_	Rumen Tote	·		BC Level Section
Ш	Automation		1	The state of the s
	Direct pack	PN : AAP2T51Z11		
	Kamen Tote	Terminal blocks		10 Vinner
		12 pole w/ wire protector		Girect Mount Terminal Blocks the
Ш	Automation		2	and the state of a sta
	Direct pack	PN : BM-M092CS		
	Kamen Tote	Push button		
			2	
Ш	Automation			
	Direct pack	PN : GCX1125		
	Kamen Tote	standoff, male/female (for DS and DSC)		
		4-40, 0.187' long		A A A A
	Bracket		6	
	Hardware	PN : 219-1048		

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Kamen Tote Bracket Hardware	Nut, bracket assembly 4-40, keps PN: 1137403	16	
Kamen Tote Bracket Hardware	Screw, servo mounting 4-40, 3/4" PN: 1128667	4	
Kamen Tote Bracket Hardware	Screw, camera pivot 8-32, 3/8" PN: 1172396	1	Children the trees.
Kamen Tote Bracket Hardware	Nut, camera pivot 8-32, nylock PN: 1170856	1	
Kamen Tote Bracket Hardware	Screw, horn/bracket assembly 4-40, 3/8" PN: 1172482	8	WITTEN STATE OF THE PARTY OF TH
Kamen Tote Bracket Hardware	Screw, hex, servo mount 4-40, 1/2", low profile PN: 0170662	4	TIII
Kamen Tote Bracket Hardware	Nylon spacer 1/4" PN:	4	e ရှိခ

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Kamen Tote Bracket Hardware	spring lock washer #4 screw size PN: 91102A720	4	ocoo
Kamen Tote Camera Bracket Kit	Axis Case PN: Axis Case	1	
Kamen Tote Camera Bracket Kit	Base PN: Axis Case	1	
Kamen Tote Camera Bracket Kit	Pan Plate PN: Axis Case	1	C. S.
Kamen Tote Camera Bracket Kit	Servo Brace PN: Axis Case	1	Z.o.Z
Kamen Tote Gates pack	Compact fan (mini) 12 Vdc PN: 412	6	
Kamen Tote Gates pack	Supporting sprocket PN: 16-5M09-6FA3	2	

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Kamen Tote Gates pack	Larger Supporting sprocket PN: 32-5M15-6A3	2	PARTITION OF THE PARTIT
Kamen Tote Gates pack	Sprocket 56 tooth, 15mm wide, HTD unfinished minimum plain bore sprocket PN: 56-5M15-6A5	2	BBB SCORIFFAAS
Kamen Tote Gates pack	Belting 535 mm long, 9mm wide, 5mm pitch GT2 belt PN: 5MR-535-09	1	
Kamen Tote Gates pack	Belting 535 mm long, 15mm wide, 5mm pitch GT2 belt PN: 5MR-535-15	1	
Kamen Tote Gates pack	Belting 900mm long, 15mm wide, 5mm pitch GT2 belt PN: 5MR900-15	1	
Kamen Tote Gates pack	Microswitch PN: V7-2B17D8-048	2	
Kamen Tote Gates pack	Teflon tape roll, 1/4" × 520' PN:	1	

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Kamen Tote Gates pack	Latex Tubing 1/4" ID x 3/8" OD x 5' L PN: 5234k44	1	
Kamen Tote Gates pack	Mabuchi motor PN: RS385SH-2270	2	
Kamen Tote Gates pack	Secondary Regulator PN: 101-3002-1	1	
Kamen Tote Gates pack	Secondary Regulator Bracket Mounting bracket PN: 13536	1	9
Kamen Tote Gates pack	Master Link for Chain #35 Link PN:	4	
Kamen Tote Gates pack	Pressure Switch Opens 115psi; Closes 95psi PN: SM-2B-115R/443	1	MASCH
Kamen Tote Gates pack	Main Regulator, adjustable PN: R07-100-RNEA	1	

		2009 Kit of Parts - Checklist	٥.	N
	Container	Part Description & Number	Qty	Photo
	Kamen Tote	Main Regulator Mounting Kit		⊘ Acceptance
		Bracket and Nut	1	THE PARTY NAMED IN COLUMN TO SERVICE AND ADDRESS OF THE PARTY NAMED IN
	Gates pack	8 11 40 007 000		
		PN : 18-025-003		
	Kamen Tote	Pressure Gauge		4
		1/8" NPT, 0 - 160 psi	1	CONCENSION CONCENSION
	Gates pack		_	
		PN : 18-013-212		
	Kamen Tote	Circuit Breaker		
		120A, Automotive style	1	
Ш	Gates pack		1	
		PN : CB3-SM-120		
	Kamen Tote	Pressure Gauge		
		1/8" NPT, 0 - 160 psi		
Ш	Gates pack		1	All Millions
	·	PN : 9690242		
	Kamen Tote	OEM Miniature Optical Kit Encoder		
		250 CPR, 1/4" bore	,	
	Gates pack/US		2	3000
	Digital bag	PN : E4P-250-250-D-D-B		
	Kamen Tote	4-pin encoder connector		
		26AWG wire		
	Gates pack/US		2	City.
	Digital bag	PN: CA-MIC4-W4-NC-1		
	Kamen Tote	DryLin S Aluminum Shaft		
		24" Hard Anodized		
	igus bag		2	
	3 3	PN : AWI-10		

	Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
	Kamen Tote	igubal Flange Bearing	۷./	
	Ramen Total		2	S
Ч	igus bag			•
		PN: EFOI-10		
	Kamen Tote	igubal Rod End Bearing		
	iaua baa		2	
	igus bag	PN: EBRI-10R		
	Kamen Tote	Energy Chain Cable Carrier		
		3ft long	1	
	igus bag	PN : 045-10-018-0		
	Kamen Tote	Energy Chain Mounting Bracket Set		
	igus bag		1	1
	.gue wag	PN : 0450-10-12		
	Kamen Tote	DryLin N Linear Guide System		
			1	Mary Control
	igus bag	PN : NK02-40-2-610		
		iglide bearing		
	Kamen Tote	ignae bearing		
	igus bag		4	
	377 773	PN : JSI-1012-08		-
	Kamen Tote	iglide bearing		
			4	
	igus bag	PN : JFI-1012-08		
		F14. 01 1-1012-00		

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Kamen Tote	iglide bearing	4	
igus bug	PN : MTI-10		
Kamen Tote	iglide bearing		
igus bag	PN : MCI-06-02	4	
Kamen Tote	Orbit Ball		
Loose	PN:	1	
Kamen Tote	Target material, pink		
Loose	1000 Denier Cordura Fabric, hot pink, #1201 PN:	1	
Kamen Tote	Target material, green		
Loose	1000 Denier Cordura Fabric, flourescent green, #1089	1	
	PN:		
Kamen Tote	Trailer Hitch Spacer 1" square, 7" long		
Loose	PN:	1	
Kamen Tote	Quick-Disconnect Battery Connector		2000
Loose	#6 wire pair, red & black, 12" tail	4	
LUUSE	PN : 6331G1		

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Kamen Tote Loose	Accumulator Volume tank, 2" bore by 6" long PN: AVT-32-16	2	
Kamen Tote Loose	Solenoid valve 12V DC solenoid single valve PN: 13026684	1	
Kamen Tote Loose	Gloves, pair PN: 2RA69	1	
Kamen Tote Loose	2.5" CIM Motor 12V DC, 2.5" diameter PN: FR801-001	2	D cat seems to the
Kamen Tote Loose	Kamen Tote 27" × 17" × 12", Attached lid PN: DC2717-12	1	KAMEN
Kamen Tote Loose	Chain #35, 10' length PN:	2	
Kamen Tote Loose	Output sprocket #35, 15 Tooth, 1/2" bore, 1/8" keyway PN : 36684974 / H35B15F-1/2	4	

	2009 Kit of Parts - Checklist		DI .
Container	Part Description & Number	Qty	Photo
Kamen Tote Loose	Coupler, Denso motor black, injection molded plastic, 6 tooth PN: Denso-6	2	
Kamen Tote Loose	Coupler, Keyang motor, 12 tooth PN: Keyang-12	1	
Kamen Tote Loose	Panel signal device 12V Light PN: 855PB-B12ME522	1	D DESTR. O- CC
Kamen Tote Terminal bag	Ring Terminal PIDG, #6 stud, 24-20AWG PN: 323986	4	
Kamen Tote Terminal bag	Ring Terminal PIDG, #6 stud, 16-14AWG PN: 320619	10	8
Kamen Tote Terminal bag	Ring Terminal #6ga- 1/4" stud, Plasti-Grip PN: 52042-3	10	
Kamen Tote Terminal bag	Ring Terminal 12-10ga Ring Lugs, PIDG PN: 35149	10	8

2009 Kit of Parts - Checklist						
	Container	Part Description & Number	Qty	Photo		
	Kamen Tote Terminal bag	Quick Disconnect, female 10-12ga, .250d, FASTON	20			
		PN : 4-520448-2				
	Kamen Tote	Quick Disconnect, female				
	Terminal bag	16-14ga, .250d, FASTON	10			
		PN : 3-520408-2				
	Kamen Tote	Quick Disconnect, male				
		12-10ga, .250d	10			
	Terminal bag	PN : 4-521098-2				
	Kamen Tote	Spade terminal				
	Tamainalhan	PIDG, #8 stud, 12-10 AWG	20			
	Terminal bag	PN : 32588		UU		
	Separate Item	Motor, RS-545				
	Lacas		2			
	Loose	PN:				
	Separate Item	Sensor Board - Acclerometer		Accel r0.1		
	1		1	00 E		
	Loose	PN:		+X = =		
	Separate Item	Sensor Board - Gyroscope		S288C & THE MACRO		
			1	Gyro		
	Loose	PN:				

Container	2009 Kit of Parts - Checklist Part Description & Number	Qty	Photo
Separate Item Loose	Battery 12 volt, 18 AH, Non-Spillable PN: ES17-12	2	The second secon
Separate Item Loose	Relief Valve 120 psi relief valve PN: 16-004-011	1	MORGHEN 14-00-0-11 1-00-0-11 1-00-0-11 1-00-0-11 1-00-0-11 1-00-0-11 1-00-0-11 1-00-0-11 1-00-0-11 1-00-0-11 1-00-0-11
Virtual N/A	Autodesk Inventor Professional 2009 www.autodesk.com/firstplace (10 licenses per team) PN:	1	
Virtual N/A	Autodesk 3ds Max 2009 www.autodesk.com/firstplace (5 licenses per team) PN:	1	
Virtual N/A	Custom Bimba Cylinders www.bimba.com PN:	3	
Virtual N/A	Altium Designer www.altium.com/frc2009 PN:	1	
Virtual N/A	PTC Pro/ENGINEER http://www.ptc.com/go/frcregistration PN:	1	

2009 Kit of Parts - Checklist							
	Container	Part Description & Number	Qty	Photo			
	Virtual	tual PTC Windchill					
		http://www.ptc.com/go/frcregistration	1				
	N/A						
		PN:					
	Virtual	PTC Mathcad					
		http://www.ptc.com/go/frcregistration	4				
	N/A		1				
		PN:					