



1/10-SCALE FRONT-WHEEL DRIVE TOURING CAR



INSTRUCTION MANUAL



INTRODUCTION

Congratulations on purchasing your Awesomatix car! The A800FXR car was produced by UAB "Awesomatix" company. The A800FXR car utilises many unique features, including some patented innovations.

BEFORE YOU START

The A800FXR car is the high-quality, innovative 1/10-scale front-wheel drive touring car and should be built only by persons with previous experience building R/C model racing cars.

This is not a toy and is not intended for use by children without direct supervision of a responsible, knowledgeable adult. Read the instruction manual carefully and fully understand it before beginning assembly. If you have any problems or questions please do not hesitate to contact the Awesomatix team at support@awesomatix.com.

If, for any reason, you decide that you do not want your A800FXR car you must not begin assembly.

Your A800FXR car cannot be returned to UAB Awesomatix for a refund or exchange if it has been fully or partially assembled.

This kit is a radio controlled model racing product and could cause harm and personal injury.

The A800FXR car is designed for use on r/c car race tracks. It should not be used in general public areas.

Awesomatix Innovations accept no responsibility for any injuries caused by making or using this kit.

Due to policy of continuous product development the exact specifications of the kit may vary.

Awesomatix Innovations do reserve all rights to change any specifications without prior notice. All rights reserved.

ASSEMBLY NOTES

Before starting each build-stage check that you have the right quantity and size of items for the build-stage. To assist you with the assembly of your A800FXR car we have included full-size images of all the small hardware parts laid out so that you can place items on top of the images to check are they correct size/length. You can find the useful tips and pictures of A800FXR assembling on the internet site: http://site.petitrc.com/reglages/awesomatix/SetupSheetsAwesomatixA800FXR.html

GENERAL PRECAUTIONS

- Many of the items in this kit are small enough to be accidentally swallowed and are therefore potential choking hazards, making them potentially fatal. Please ensure that when assembling the kit you do so out of the reach of small/young children.
- Take care when building, as some parts may have sharp edges.
- Please read this manual carefully to understand which ancillary items (tools, electrics, electronics etc) are used with this kit.
- UAB "Awesomatix" accepts no responsibility for the operation of any such ancillary items.
- · Exercise care when using tools and sharp instruments.
- Follow the operating instructions for the radio equipment at all times.
- Never touch rotating parts of the car as this may cause injury.
- Keep the wheels of the model off the ground when checking the operation of the radio equipment.
- To prevent any serious personal injury and/or damage to property, be responsible when operating all remote controlled models.
- The model car is not intended for use on roads or areas where its operation can conflict with or disrupt pedestrian or vehicular traffic.
- Do not run your car in poor light or if it goes out of sight. Any impairment to your vision may result in damage to your car or, worse, injury to others or their property.
- As a radio controlled device, your car is subject to radio interference from things beyond your control. Any such interference may cause a loss of control of your car so please consider this possibility at all times.
- When not using RC model, always disconnect and remove battery.
- Insulate any exposed electrical wiring to prevent dangerous short circuits.
- Take maximum care in wiring, connecting and insulating cables. Make sure cables are always connected securely.
 - Check connectors for if they become loose and if so reconnect them securely. Never use R/C models with damaged wires.
- A damaged wire is extremely dangerous and can cause short-circuits resulting in fire.

EQUIPMENT RECOMMENDED (NOT INCLUDED)

- Radio Transmitter
- Radio Receiver
- Electronic Speed Control
- Steering Servo
- Servo Horn
- Electric Motor
- Pinion Gear (64 or 48 Pitch)
- Spur Gear (64 or 48 Pitch)
- 7.4 V Li-Po Battery190mm Body Shell
- Touring Con Missele T
- Touring Car Wheels, Tires, Inserts

TOOLS RECOMMENDED (NOT INCLUDED)

- 1.5mm, 2.0mm Hex Driver
- 5.5mm, 3/8, 10mm Wrenches
- Callipers
- Hobby Knife
- Camber Gauge
- Ride Height Gauge
- Thread Lock
- 100'000 cst Diff Silicone Oil
- 275 cst Silicone Shock Oil
- Joint GreaseO-Ring Grease

2



Note these items at assembling of the car.





STEP 1 - Assembling of the D4 Dampers

D4 dampers feature external switching between linear, progressive and semi-progressive damping modes without the need for disassembly.

#1 Insert OR2010V o-ring into the upper cavity of AM242R/L-D4 case. Lubricate ST143 with small amount of silicon oil. Note that one OR1010V o-ring is already factory installed on each ST143. Hold OR2010V o-ring with the tip of your finger and insert the lubricated ST143 into AM242R/L-D4 hole. Rotate and press on ST143 simultaneously with 1,5mm hex screwdriver so that the pointed tip of ST143 should pass through OR2010V o-ring.



#2 Turn ST143 valve into the shown position for further installation of the AT241 rotor.



Lubricate the outer edge of the P63-R piston with small amount of "O-ring Grease". MXLR brand o-ring grease is recommended.
Do not allow any grease nor any other lubricant to get onto the P63-R piston leg! Insert P63-R piston into AT241 on full depth.
Insert AT247 probe into the output hole of AT241 rotor and shift P63-R piston to the recommended ~7mm position.







for the pin of AT243-D4.

Note the round recess in AM242

#7 Prepare the damper's stand for using with the Tamiya style RC Damper Oil Air Remover tool. Either attach **P67** stand to three **P14-2** posts (cut to ~43mm length) or directly replace one of the original plate by **P67**.





#8 Install the dampers on the air remover stand and keep them vertically. We recommend 275 cst silicone oil as a base. Fill up the dampers with the desired silicone oil. The oil level should reach the top face of AT243-D4 and AT241 at this stage. Make sure to also fill up the cavity over P63-R piston. Pay special attention to the narrow slot behind AT243-D4. A lack of oil here is hard to detect, add oil if necessary!



#9 Vacuum should be applied at least 10 times x 2 minutes. Try to reach the maximum possible level of vacuum on each cycle. There are many small cavities inside the damper bodies where air might get trapped for a long time. Repeat as many vacuum cycles as necessary for as long as air bubbles keep appearing. This step is crucial to obtain perfectly operating dampers!

#10 Add more oil into the damper. The oil level should be a little over the upper edge of **AM242**. Insert a long M3 screw into the special hole of **AM240-D4** to grab **AM240-D4** cover. **AM240-D4** should be inserted 100% horizontally and slowly to allow the oil to fill the cavity of **AM240-D4** and to push trapped air through the two mounting screw holes. **AM240-D4** should dive into the oil under its own weight at this stage. Next carefully press onto **AM240-D4** with your fingertip to slowly submerge **AM240-D4** all the way into its pocket on top of AM242 body.



#11 Keep the damper vertically while screwing on the two ST122-1 screws with OR2005V o-rings. Make sure not to overtighten these screws to avoid stripping the threads!





#12 Install ST102F (longer part) onto the front dampers and ST102R (shorter part) onto the rear dampers. Keep the damper vertically and swing AT241 rotor a few times in both directions. In case you feel air bubbles inside the damper remove AM240-D4 cover, add some oil into the damper and repeat the AM240-D4 installation process.



Comment: Note that dampers sit in the horizontal position in the car. Therefore, any trapped air is necessarily located near the top wall of the damper and does not affect the rotor action. These dampers are equally effective on track even with a bit of air trapped inside. These bubbles can only be felt when they can go through the rotor blade when the dampers are operated vertically.





Note: Use ST112 centering screws to bolt on the dampers!

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STEP 9



STEP 10











Fill up with the desired silicone oil (not included). Screw **AT123B** case with 10mm wrench slowly. The oil excess will go out through the **ST31-1** axial hole.











Note: Do not tighten SS3X3 set screws at this stage.



STEP 20

Install the rear sway bar into P12X and the front sway bar into P12FXR.

Adjust **AT142** stoppers to achieve centered sway bar position and then tighten **SS3X3** set screws.



STEP 21













STEP 26 FINISHED

Note: Use other combinations of **SH0.5**, **SH1.0** and **SH1.75** Spacers under appropriate Pivot Balls and Ball Studs to adjust your car set-up to better suit different track conditions.





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STEP 29



Notes: The given rods and arms sizes are approximately for 6° front caster and 4° rear caster, 2° both front and rear cambers, 2,0° rear toe-in and 1° front toe out angles. Use a setup station or angles gauge for more precise suspension geometry setting. See our recommendations on page #18 for quick and easy suspension geometry change.



Unscrew **SB25X8** screws by ~3 turns and shift **P04** up to create ~1.5mm gap between **P04** and the lower arm.





Insert **P03** ball into the spherical cavity of the lower arm and tighten **SB25X8** screws. Insert the driveshaft inner joint into the outdrive of diff/spool. **Note**: Don't overtighten **SB25X8** screws to avoid **ST03 ball** binding!!! Achieve a free action of the ball joint with a minimal play.





Note: Use an appropriate combination of SH spacers under P25 clamps to allow ~0,3 mm vertical free play of the battery.



STEP 34

Note: Four angular positions of P68 adjuster provide 0,25..1,0 mm range to adjust the longitudinal free play of the battery.

SB3X6





OR18V







WHEELBASE SETTING



Unscrew only 7 things for a wheelbase change: two **ST112**, one **SF3X5**, two **SB3X5** screws and two **ST24** ballstuds.

Then bend the top deck up a little and slide **C128C** rear lower deck back or forward. **C128C** rear lower deck can be installed in 4 positions, allowing for wheelbase adjustments of up to 10.5mm in 3.5mm increments.



AM286 links can be mounted in narrow position to increase rear chassis flex.





SUSPENSION SETTING TECHNIQUE





D4 dampers setting technique

Attention! D4 dampers allow to adjust the damping level, spring rate and progressivity of damping without replacing of the shock's oil and spring and without disassembling the damper.

1. Damping and Shock Spring rate setting

Increase **B** distance (slide **AT119R** holder outward) to increase the spring rate. Reduce **B** distance (slide **AT119R** holder inward) to reduce the spring rate. Use **SRS** (Spring Rating Screw) to unlock **AT119R** holder and to lock it at the desirable position.

2. Shock Spring preload setting

Spring preload and ride height of the car is adjusted via **RHS** (Ride Height Screw). In A800FXR kit **ST69-00-R** screw is used as **RHS** screw.

Turn IN (CW) **RHS** screw to increase spring preload. Turn OUT (CCW) **RHS** screw to decrease spring preload. Use spring preload setting to adjust ride height.

3. SRS/RHS Screws arrangements



SRS/RHS screws arrangement |

4. Damping level setting

ST143 valve angular position indicates the damping level from 60% to 100% in 5% increment.

5. Damping progressivity setting

ST225 valve angular position indicates one of three possible damping progressivity levels.

SRS/RHS Screws arrangement II

В











Semi-progressive mode

Progressive mode



6. DG1X gauge using





FINAL DRIVE RATIO CHART

DRIVE TRAIN RATIO IS 1,9

ī																												
	1,9	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	
	28																											7,19
	29																										6,88	6,94
	30																									6,59	6,65	6,71
	31																								6,31	6,37	6,44	6,50
	32																							6,06	6,12	6,18	6,23	6,29
	33																						5,82	5,87	5,93	5,99	6,05	6,10
Щ	34																					5,64	5,64	5,70	5,76	5,81	5,87	5,92
SIZE	35																				5,37	5,43	5,48	5,54	5,59	5,65	5,70	5,75
	36																			5,17	5,23	5,28	5,33	5,38	5,44	5,49	5,54	5,59
EAR	37																		4,98								5,39	
ŪZ	38																	4,80	4,85									
84dp PINION	39																4,63	4,68	4,73									
N	40															4,47			4,61									
рF	41														4,31				4,495									
4d	42													4,16					4,39									
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64dp SPUR GEAR SIZE

AWESCHVIIX

1,9 21

Γ	1,9	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
ſ	21																					7,24
	22																				6,82	6,91
	23																			6,44	6,53	6,61
uГ	24																		6,10	6,18	6,25	6,33
31210	25																	5,78	5,85	5,93	6,00	6,08
2	26																5,48	5,55	5,63	5,70	5,77	5,85
1 [27															5,21	5,28	5,35	5,42	5,49	5,56	5,63
ม้ ว	28														4,95	5,02	5,09	5,16	5,23	5,29	5,36	5,43
5	29													4,72	4,78	4,85	4,91	4,98	5,04	5,11	5,18	5,24
	30												4,497	4,56	4,62	4,69	4,75	4,81	4,88	4,94	5,00	5,07
2	31											4,29	4,35	4,41	4,47	4,54	4,60	4,66	4,72	4,78	4,84	4,90
4oup	32										4,10	4,16	4,22	4,28	4,33	4,39	4,45	4,51	4,57	4,63	4,69	4,75
J	33									3,92	3,97	4,03	4,09	4,15	4,20	4,26	4,32	4,38	4,43	4,49	4,55	
	34								3,74	3,80	3,86	3,91	3,97	4,02	4,08	4,14	4,19	4,25	4,30	4,36		
	35							3,58	3,64	3,69	3,75	3,80	3,85	3,91	3,96	4,02	4,07	4,13	4,18			
	36						3,43	3,48	3,54	3,59	3,64	3,69	3,75	3,80	3,85	3,91	3,96	4,01				
	37					3,29	3,34	3,39	3,44	3,49	3,54	3,59	3,65	3,70	3,75	3,80	3,85					
	38				3,15	3,20	3,25	3,30	3,35	3,40	3,45	3,50	3,55	3,60	3,65	3,70						
ſ	39			3,02	3,07	3,12	3,17	3,22	3,26	3,31	3,36	3,41	3,46	3,51	3,56							
	40		2,90	2,95	2,99	3,04	3,09	3,14	3,18	3,23	3,28	3,33	3,37	3,42								
	41	2,78	2,83	2,87	2,92	2,97	3,01	3,06	3,10	3,15	3,20	3,24	3,29									

48dp SPUR GEAR

48dp PINION GEAR SIZE



SETUP SHEET





Standard Spare Parts

Parts#	Description
AM06WL	Steering Block
AM14FX	Steering Arm
AM19-R	Upper Arm Holder
AM23-1	Rear Steering Arm
AM24FX	Central Servo Holder
AM77FX	Motor Mount FWD
AM180FX	Bellcrank
AM240-D4	Damper Cover
AM242R-D4	Damper Body R
AM242L-D4	Damper Body L
AM278-FXR	Bulkhead
AM285	Rear Bulkhead
AM286	Link
AT13	Wheel Hex
AT13FX	Rear Wheel Hex FWD
AT14	Turnbuckle
AT21ST-A	Pivot Ball
AT25	Turnbuckle Long
AT25-44	Turnbuckle Long 44 mm
AT55M	Spur Nut
AT119R	Spring Screw Holder
AT120-FX	20T Alloy Pulley FWD
AT123B	GD2B Case1
AT124B	GD2B Case2
AT142	Sway Bar Stopper
AT160	Strut FXR
AT241	Damper Rotor
AT243-D4	Progression Damper Plate
AT247	Damper Piston Probe
ST01	Front Axle
	Ball Stud
ST03	
ST05-R	Shock Rod
ST69-00-R	Linear Spring Screw
ST113	IFJ Universal Bone
ST116	IFJ/IRJ Cross
ST16	U-Joint Cross
ST17-1	Universal Ring
ST019	Top Deck Screw
ST23X	IRJ Outdrive
	4,8x6 mm Ball Stud
ST24	,
ST24M	4,8x8 mm Ball Stud
ST31-1	GD2 Output Axle
ST38	Universal Nut
ST68	Flanged Wheel Nut
ST102R	Damper Rod Guide Rear
ST102F	Damper Rod Guide Front
ST105	Round Weight 5g
ST110	Round Weight 10g
ST112	Centering Screw
ST122-1	Damper Screw
ST143	Damper Valve
ST225	Progression Valve
ST265R	Bumper Weight FX 60 g
G07	GD2 Satellite Gear
G08	GD2 Bevel Gear
P01	Ball Joint-1
P01X	Ball Joint
P02	Ball Joint-2
P03X	Arm Ball Cap
P04	Arm Hasp
P05	Sway Bar Joint
P07	Arm Clip
P12X	Sway Bar Holder
P12FXR	Sway Bar Holder
P13X	Ball End
P14X	Bumper Set
P15FX	Foam Bumper FWD
P15L	
	Foam Bumper
P16	Lock Ring
P23-R	Outer Battery Holder
P25	Battery Clamp
P39	GD2 Cross Pin
P46R	Diff Piston
P56	Antenna Holder
P63-R	Damper piston
P67	Dampers Stand Plate

P67

Dampers Stand Plate

Parts# P68 P110 P138A C01FXR-A	Description Battery Adjuster Bearing Housing 38T Pulley Front Lower Deck Alloy
C27FXR C45FXR	Rear Top Deck Damper Brace Rear
C107FXG	Front Top Deck
C128C	Rear Lower Deck Carbon
C204R	Suspension Arm
C204L BW29	Suspension Arm Front Weight 29 g
BW41	Front Weight 41 g
SWB10	Sway Bar 1,0 mm
SWB11 SWB12	Sway Bar 1,1 mm Sway Bar 1,2 mm
SWB12	Sway Bar 1,3 mm
SPR01	Shock Spring
SPR23-R	Shock Pointer
SPR05 SPR07	Body Clip E-Ring
SH3X5X0.5	3x5x0.5 mm Shim
SH0.5	6x3x0,5 mm Spacer (silver)
SH1.0 SH1.75	6x3x1,0 mm Spacer (gray) 6x3x1,75 mm Spacer (black)
SH12X1.5	4x12x1,5 mm Spacer
SH3X5X0.1	3x5x0,1 mm Shim
WA02	3x5x0,2 mm Washer
WA03 PIN01	5x15x0,3 mm Washer 1,5x7,8 Pin
PIN02	1,5x5,8 Pin
OR13V	1x13 mm O-ring
OR05V OR0876V	GD O-Ring Medium 7,6x0,8 mm O-Ring Viton
OR1010V	1,0x1,0 mm O-Ring
OR2010V	2,0x1,0 mm Oring Viton
OR2005V	2,0x0,5 mm Oring Viton 1,0x0,5 mm Oring Viton
OR1005V OR06	5 mm O-RING
OR52V	5x2 mm O-Ring Viton
OR155V	Damper O-Ring
OR18V B106RS	1x8 mm O-ring Viton MR106RS Bearing
B85	MR85 Bearing
B84SS	MR84ZZ Bearing
B63SS B415	MR63ZZ Bearing B415ZZ Bearing
SC2X4	M2x4 Cap Head Screw
SC2X6	M2x6 Cap Head Screw
SC2X8 SB2.5X8	M2x8 Cap Head Screw M2,5x8 Button Head Screw
SS3X3	M3x3 Set Screw
SS3X4	M3x4 Set Screw
SS3X5	M3x5 Set Screw
SB3X4F SB3X5	M3x4 Flange Head Screw M3x5 Button Head Screw
SB3X6	M3x6 Button Head Screw
SB3X8	M3x8 Button Head Screw
SB3X10 SB3X14	M3x10 Button Head Screw M3x14 Button Head Screw
SF3X5	M3x5 Flat Head Screw
SF3X6	M3x6 Flat Head Screw
SF3X8	M3x8 Flat Head Screw
SF3X10 BEL225B	M3x10 Flat Head Screw Belt 225 mm Bando
DG1XM	Damper Guage Set
STS-A800FXR	A800FXR Stickers Sheet

Optional Parts

-	
Parts#	Description
C01FXR-C	Front Lower Deck Carbon
C27FXR-L	Top Deck Long
C107FXR	Front Top Deck Carbon
C128A	Rear Lower Deck Alloy
C204R+1	Suspension Arm + 1 mm
C204L+1	Suspension Arm + 1 mm
C204E-1	Suspension Arm - 1 mm
C204L-1	
	Suspension Arm - 1 mm
C27FXR-G	Rear Top Deck
C26	Top Stiffener
C27FX-L	Top Deck Long
C107	Front Top Deck FX
C07-R	Carbon Bumper
C07-RF	Flex Carbon Bumper
ST03-Ti	Ball Stud Titanium
ST205	Damper Rod
ST24L	4,8x10 mm Ball Stud
ST24S	4.8x5 mm Ball Stud
ST24-Ti	4,8x6 mm Ball Stud Titanium
ST24M-Ti	4,8x8 mm Ball Stud Titanium
ST24S-Ti	4,8x5 mm Ball Stud Titanium
ST69-15	Progressive Spring Screw
ST69-25-R	Progressive Spring Screw
ST123	M2.5x7 mm Screw
ST147	PS Retainer
ST237	Damper Spacer
ST265	Bumper Weight FX 115 g
AT06	Alloy Antenna Holder
AT13W	Wheel Hex Wide
AT15	
	Bearing Spacer
AT21R	Pivot Ball
AT143	ARB Stiffener
AT144	ULCG Battery Clamp
AM288	Top Deck Stiffener
DT10+1.0	Bearing Housing
P40F	Servo Arm (Futaba)
P40K	Servo Arm (KO)
P74	Progressive Spring Holder set
P138LFA	38T Pulley Low Friction
SB3X5AL	M3x5 Alloy Button Head Screw
SH0.1	6x8x0.1 mm Shim
SH0.25	3x6x0.25 mm Shim
SH5.9X0.4	5.9x0.4 mm Spacer
SPR14-R	Center Spring
SPR-P1	Progressive Spring
SPR-P2	Progressive Spring
T01	5.5/4 mm Wrench
T02	Wrench
TW5	Tungsten Weight 5 g.
ABH	Adjustable Battery Holder set
PSSX	Progressive Spring System
SCC-FXR	Steel Chassis Conversion set



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