



CEN Gasoline Model Handbook

Important! : Before you start running your CEN Gas powered radio control vehicle, you must read the engine break in, operating and preliminary instructions. If the instructions and procedures are not followed correctly you may damage or diminish the performance of your gas powered vehicle along with voiding the warranty.

Step 1: You must install 8AA batteries into you radio control, prior to operation. Open the bottom of the radio and install the batteries according to the diagram provided with your radio. Now install batteries into the provided receiver pack holder. Next install your antenna tube.

Step 2: Check your electronic system. Suspend your vehicle in the air, on a block or something comparable. Then first turn your radio on making sure that no one else is on the same frequency as you within radio range. (apx 200-300metres / 1000ft) Next, turn on your car by switching the on / off switch to the ON position.

Now turn your steering wheel from left to right. Your vehicle's front wheels should move in accordance to your radio's steering wheel. The wheels should move smoothly and freely.

Setting your linkage is extremely important and can be difficult at times.

Throttle linkage:

If the carburetor is rotary then the arm will most likely have two holes in the arms. It is recommended to use the lower hole unless your radio has an EPA (end point adjustment) setting. This will allow you to achieve full throttle much easier. It is also recommended to use the outer most hole on the servo horn that is attached to your throttle servo. This will also allow you to obtain full throttle much easier. If your radio has an EPA adjustment, refer to your radio instructions to set the end point correctly so that you can achieve the optimum throttle, brake, and neutral point. For slide carburetors simply install the ball cup and snap it onto the ball joint at the end of the carburetor arm. Then follow the above instructions.

It is important to make sure your throttle and brake linkage is adjusted correctly. When you pull the trigger, the carburetor on your engine should open in correspondence. Remove the air filter to confirm that you are achieving full throttle while pulling the trigger all the way. Next, apply the brakes by pushing the throttle up(forward). The wheels on your vehicle should now be restricted from moving.

Step 3: Maintaining your engine is extremely important.

Your air filter is a VERY important aspect to the life of your engine. Your air filter has been designed to allow maximum airflow to your engine, with maximum protection against dirt, dust and debris. It is strongly recommended to only use the air filter that came with your vehicle as they were designed for optimum performance and protection.

You must clean your air filter frequently. A good habit to form is to clean or replace your air filter foam after every hour of use. Never re-use your air filter foam more then twice. Once the foam is contaminated it can never be cleaned.

This is why it is a good idea to always have a pack of extra foam filters handy. You will want to oil your foam filter to catch debris. Use any air filter oil. Most hobby shops will have this in stock.

H0116010 20100403

CEN/GTC
1800 E. Miraloma Ave., #F,
Placentia, CA92870 USA
TEL: 1-714-792-1923
FAX: 1-714-792-1968
E-mail: sales@cenracing.com

CENCHAIN CO., LTD.
No.16, LANE 105, CHENG FU RD,
SANHSIA, TAIPEI HSIEN TAIWAN, R.O.C
TEL:886-2-26681881
FAX:886-2-26681899
E-mail: rchobby@ms11.hinet.net

www.cenracing.com

1/5th scale Matrix Gas Vehicle

General instructions:

Before starting the engine, it is very important that you read the following instructions in its entirety.

Before breaking in the engine, you will need to mix your fuel and oil content on your own. Always use 2 cycle/stroke engine oil to mix with the gasoline/petrol for this model. Mix the oil at a 25:1 ratio. Always use unleaded gasoline with 2 cycle engine oil. Once you have properly mixed your fuel with the necessary oil, fill the fuel tank and make sure that the cap is securely fastened.

Now it is time to break in your engine. To break in your engine idle one tank of fuel through the engine. On the 2nd tank, (after you have thoroughly checked and inspected your radio system for proper function) it is time to drive the vehicle slowly. This will properly break in your engine and prepare it for its full potential. It is extremely important that you clean / replace your engines air filter after every hour of use. This will dramatically improve the performance of your engine while, prolonging the life span.

Starting the Engine:

You will need to prime the engine before starting it. Press the prime valve 3 times so that the fuel enters the carburetor.

Next, make sure that the choke lever is in the horizontal position closed before starting the engine. Then pull the pull cord in short quick pulls. Your engine should start up.

If the engine doesn't start immediately you can return the choke lever to the down position open and pull the cord apx 5 times. (Be careful to not pull more than 5 times as this could cause the engine to flood) Then return the choke to the horizontal position and your engine should start.

Tuning the engine:

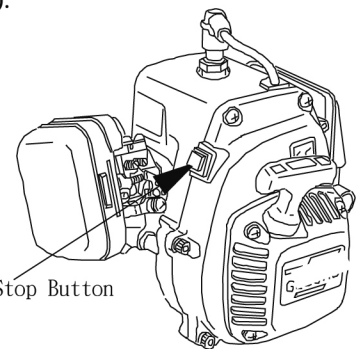
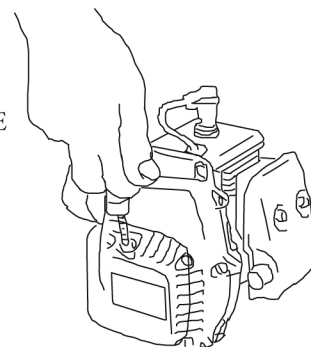
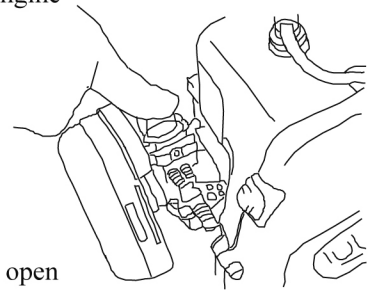
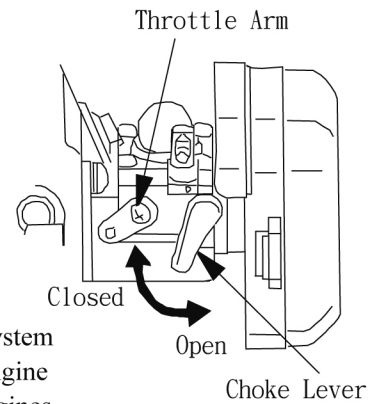
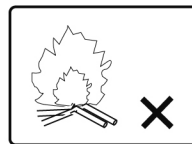
If the engine is too slow you can adjust the high speed needle. You can adjust the need NO MORE than ¼ turn in from the factory setting. This will increase the speed of the engine; however it will shorten the life span of the engine.

If you engine accelerates too slowly then you can adjust the low end needle. The same applies for this needle. You can adjust / turn in the needle NO MORE than ¼ turn in from the factory settings. It is recommended to perform small adjustments at a time to achieve the desired settings.

The idle is also adjustable. To lower the idle turn the idle screw counter clockwise (unscrew). To raise the idle, turn the idle screw clockwise (screw in).

Shutting off the engine:

When you are finished and ready to turn the engine off, push the red stop button to cut the engine and then remove any excess fuel from the tank. Your vehicle is now ready for storage.



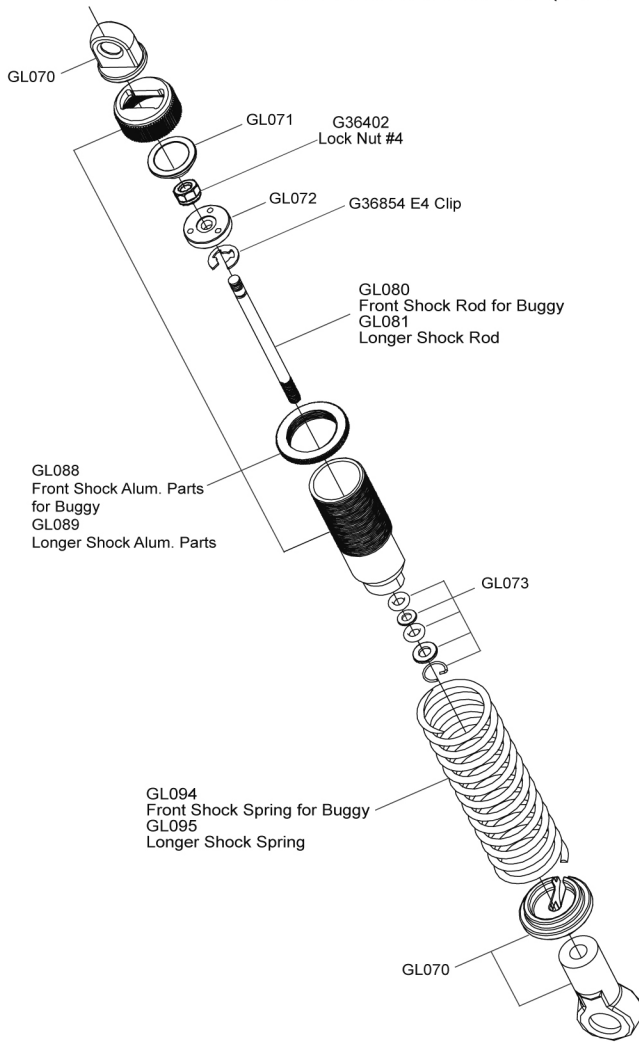
Matrix 5 Trouble Shooting

Problem	Cause	Solution
Engine does not start	<ul style="list-style-type: none">Air filter is clogged or blockedThrottle settings are not adjusted properlyDid not prime the engineNot tuned properlyFlooded EngineIdle set improperly	<ul style="list-style-type: none">Check the air filter by removing it making sure that it is properly oiledCheck needle settingsPrime the engine by pressing the prime bulb 3 timesRefer to the recommended needle settings and checkFix the flooded engine by removing the spark plug and discharging the fuel from the plug hole. (turn upside down)Make sure the idle is set properly by adjusting the idle screw. Turn in for higher idle.
Engine Starts then stalls	<ul style="list-style-type: none">No fuel in the tankNo air pressureThe engine is overheated	<ul style="list-style-type: none">Fill the tank and prime the engineCheck the exhaust, fuel line, and air filter for any debris blocking the air flowLet the engine cool down thoroughly then restart
Poor control of the vehicle	<ul style="list-style-type: none">Brakes are not working properlyBatteries are running low in the transmitterBad signal / reception	<ul style="list-style-type: none">Re adjust your throttle / brake linkage so that the brakes engageInstall new batteries in the radio and receiver packBe sure that both your radio and receiver antenna's are extended fully.

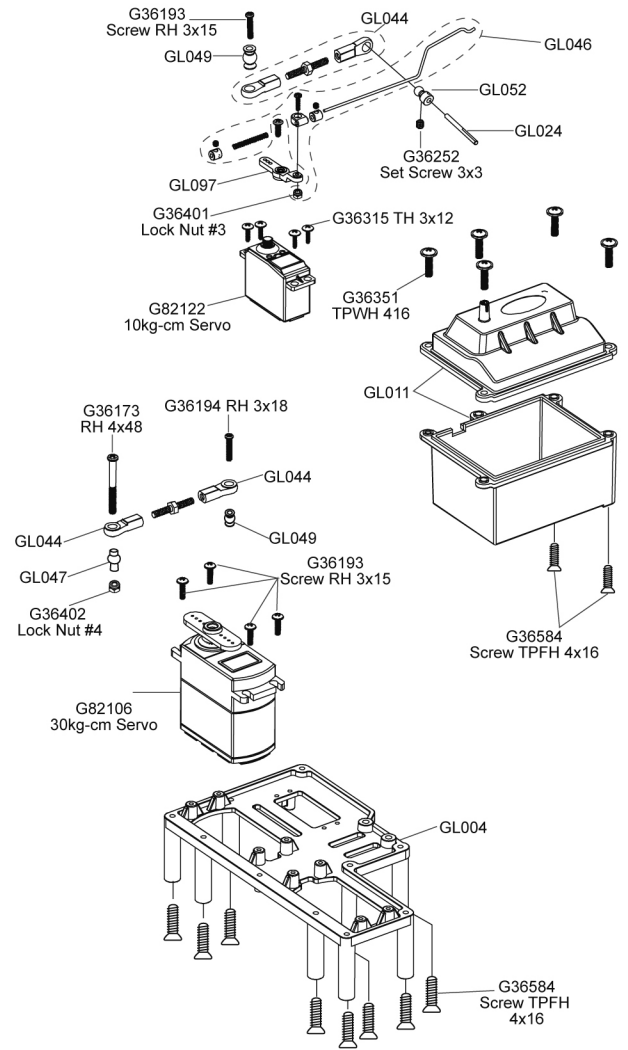


05 Shock Assembly

GL063 Longer Shock Set
GL074 Front Shock Set (BUGGY)

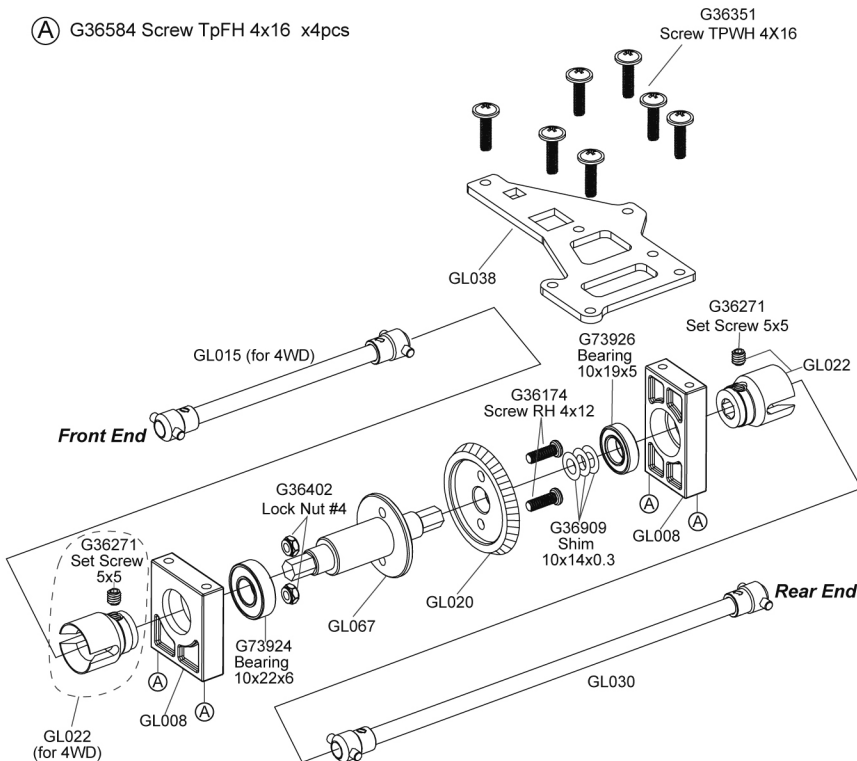


06 Radio Tray Assembly

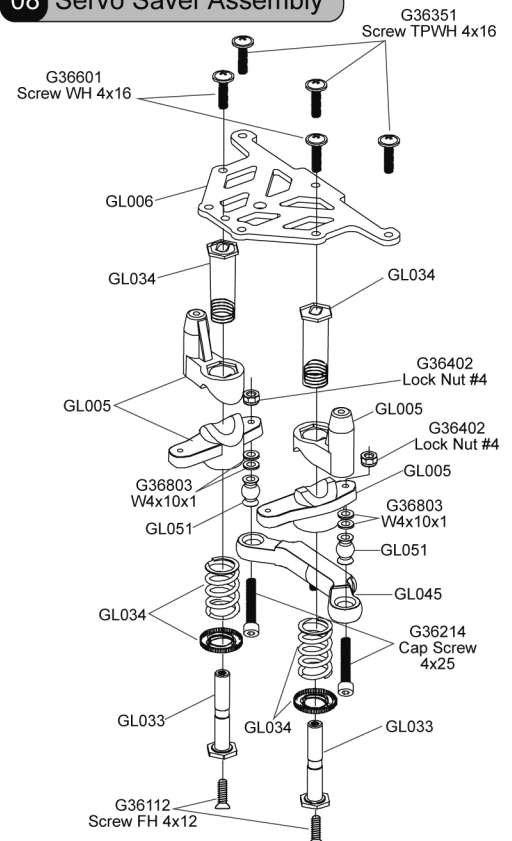


07 Center Gear Assembly

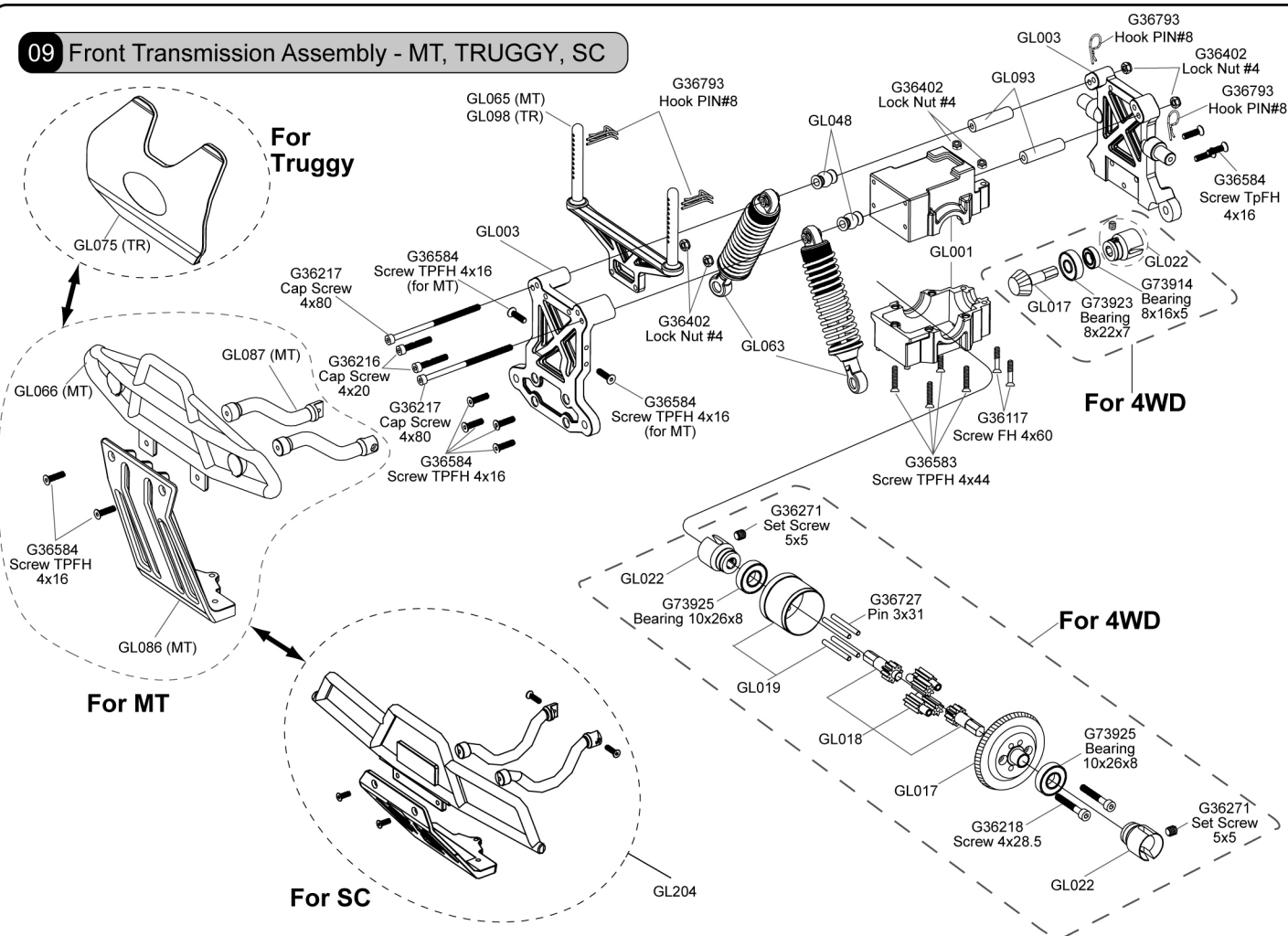
(A) G36584 Screw TpFH 4x16 x4pcs



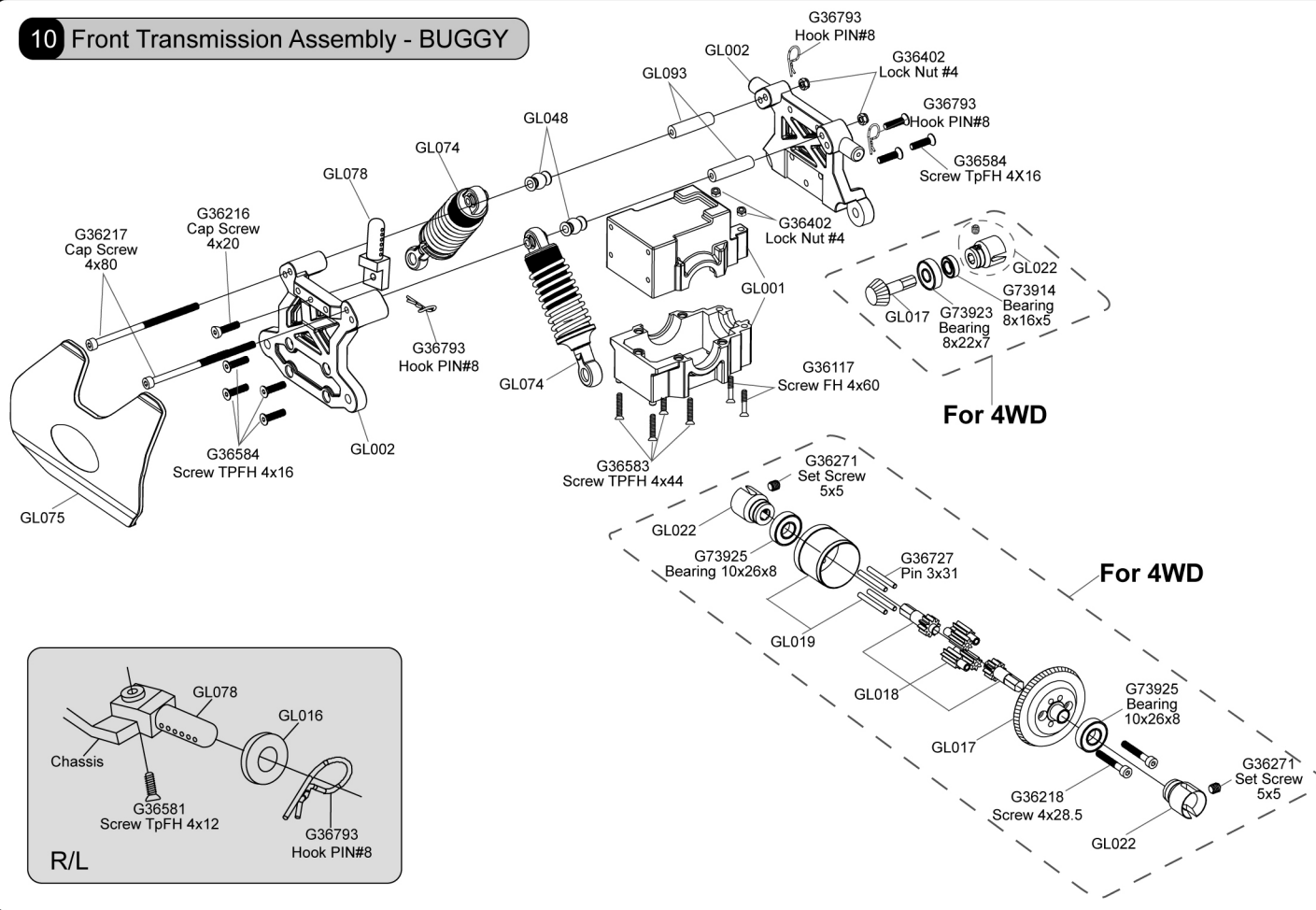
08 Servo Saver Assembly



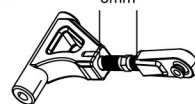
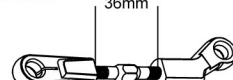
09 Front Transmission Assembly - MT, TRUGGY, SC



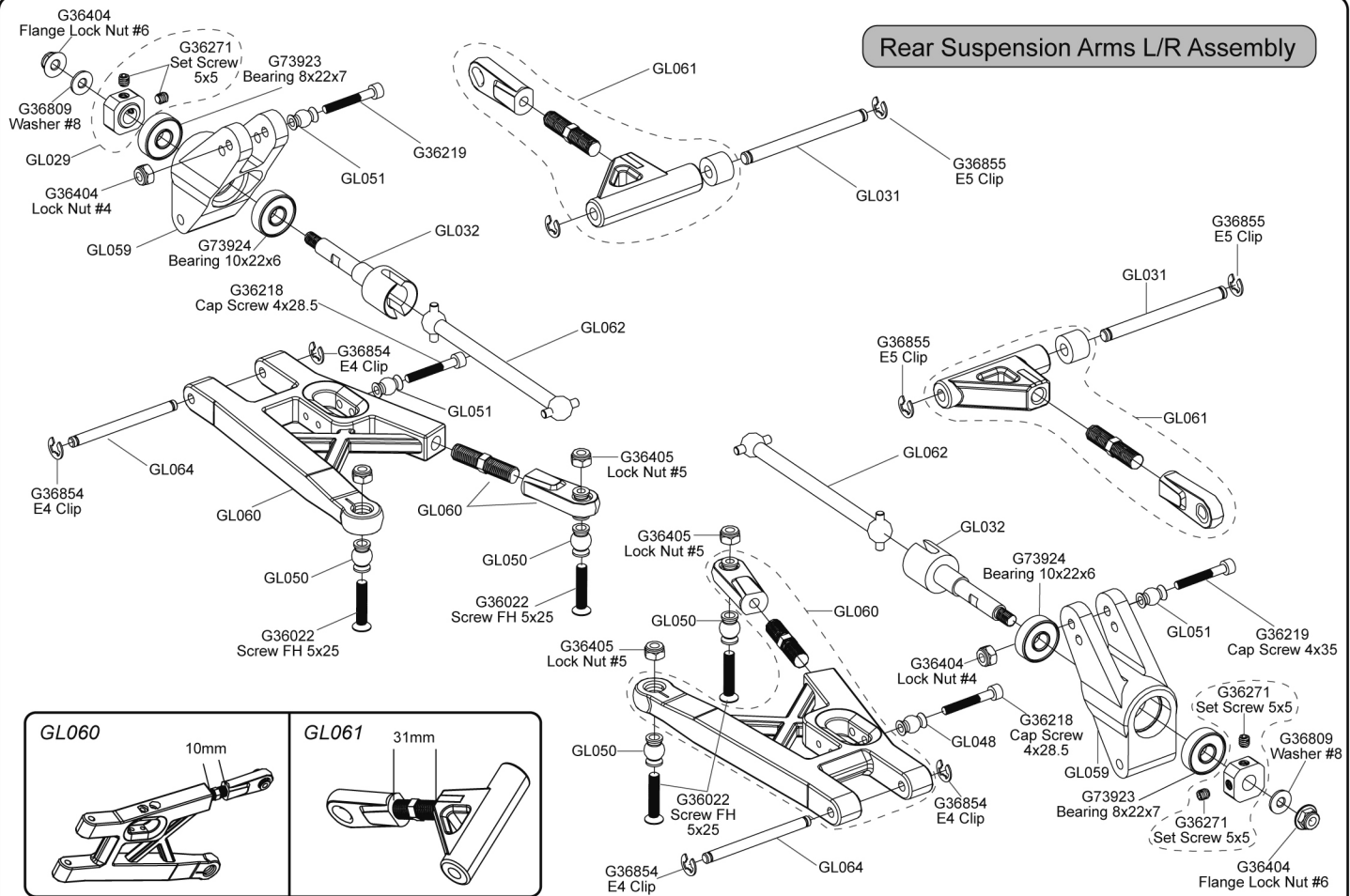
10 Front Transmission Assembly - BUGGY



11

**GL036**

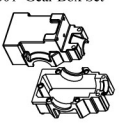
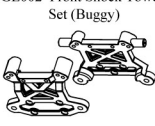
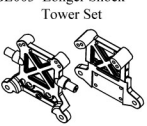
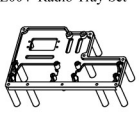
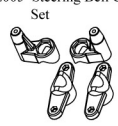
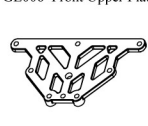
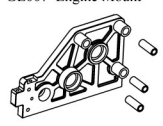
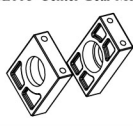





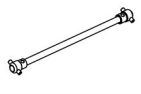




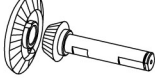


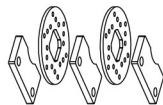



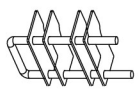
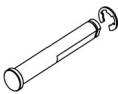

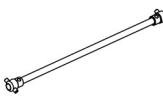
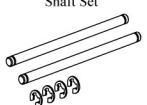



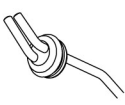
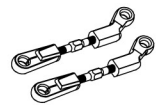
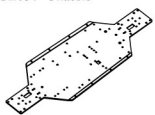
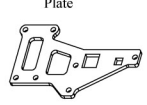
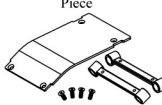

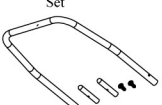

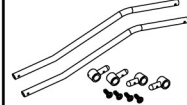
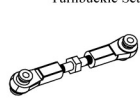
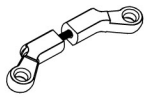
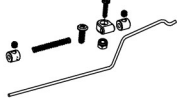
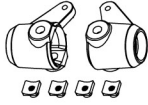

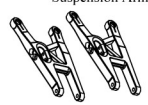
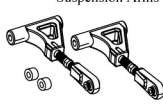
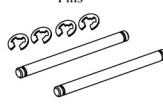
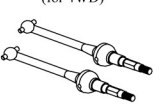
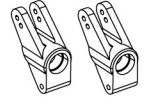
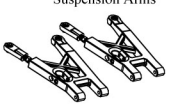
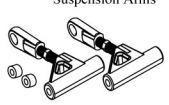
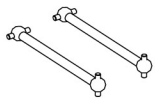

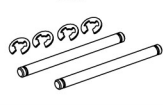

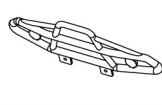
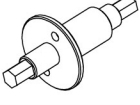



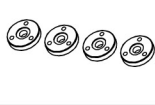



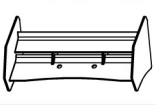

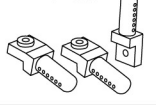


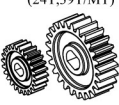
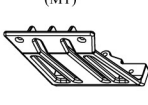








Rear Suspension Arms L/R Assembly



Parts List

			Tuned Parts		
GL047	Ball Pivot 6.8x13x6pcs	G36218	Cap Screw 4x28.5x6pcs		Tuned Pipe(Gasoline Engine)
GL048	Ball Pivot 8.8x13x6pcs	G36219	Cap Screw 4x35x6pcs	GLS01	
GL049	Ball Pivot 6.8x11x6pcs	G36252	Set Screw 3x3x6pcs	GLS02	FrontUpperPlate
GL050	Ball Pivot 9.8x14(D5)x6pcs	G36271	Set Screw 5x5x6pcs	GLS03	FrontShockTower-F/Buggy
GL051	Ball Pivot 9.8x14(D4)x6pcs	G36351	Self-tapping Flange Head Screw 4x16x6pcs	GLS04	FrontShockTower-R/Buggy
GL052	Ball Pivot 6.8x14.5x6pcs	G36401	Lock Nut M3x6pcs	GLS05	LongerShockTower-F
GL091	Wheel Set (MT)	G36402	Lock Nut M4x4pcs	GLS06	LongerShockTower-R
GL093	Spacer Tube	G36404	Flange Lock Nut M6x6pcs	GLS07	Engine Mount
GL094	Front Shock Springs(Buggy)	G36405	Lock Nut M5x6pcs	GLS08	ST.BellCrank-UpperArm
GL095	Longer Shock Springs	G36532	Self-tappingRound Head Screw 3x8x6pcs	GLS09	ST.BellCrank-LowerArm
GL097	Throttle Servo Horn	G36581	Self-tapping Flat Head Screw 4x12x6pcs	GLS10	CenterGearMount-Rear
GL098	Body Mount Set(Truggy)	G36583	Self-tapping Flat Head Screw 4x44x6pcs	GLS11	CenterGearMount-Front
GL101	Flash Body(Matrix 5-B)	G36584	Self-tapping Flat Head Screw 4x16x6pcs	GLS12	Brake Mount
GL102	Flash Body(Matrix 5-T)	G36601	Flange Head 4x16x6pcs	GLS13	Air Filter
GL103	Flash Body(Matrix 5-MT)	G36793	Hook Pin #8x6pcs	GLS14	Fuel Tank Mount
GL104	Body Decal(Matrix 5-B)	G36803	Washer 4x10x1x6pcs	GLS15	GearSet(MT)
GL105	Body Decal(Matrix 5-T)	G36808	Washer 6x16x1x6pcs	GLS16	Gear Set(TR,BG)
GL106	Body Decal(Matrix 5-MT)	G36809	Washer 8x17x1.6x6pcs	GLS17	Wheel Hex.Drivers(23mm)
GL200	2WD --> 4WD Conversion Kit	G36854	E4 Clipx6pcs	GS035	V Pattern Tires(GST)
GL202	Front Axles (2WD)	G36855	E5 Clipx6pcs	GS214	"Sniper" Racing Tires(Nemesis)
G71001	Gasoline Engine 30cc	G36856	E8 Clipx6pcs	GS215	"Assault" Wheels,H23mm(Nemesis)
G36021	Flat Head Screw 5x18.5x6pcs	G36871	C8 Clipx6pcs	GS228	Wheels,H23mm(pre-glued/Nemesis)
G36022	Flat Head Screw 5x25x6pcs	G36909	Shim 10x14x0.3x6pcs	GS229	Wheel Hex. Nuts(23mm)
G36023	Flat Head Screw 5x38x6pcs	G73914	Bearing 8x16x5x2pcs	GS287	Chrome Wheels,H23mm(GST)
G36041	Set Screw 6x6x6pcs	G73923	Bearing 8x22x7x6pcs	G70440	Ni-MH Battery Pack W/AC Charger
G36061	Cap Screw 6x35x6pcs	G73924	Bearing 10x22x6x6pcs		
G36112	Flat Head Screw 4x12x6pcs	G73925	Bearing 10x26x8x6pcs		
G36117	Flat Head Screw 4x60x6pcs	G73926	Bearing 10x19x5x6pcs		
G36118	Flat Head Screw 4x10x6pcs	G82122	10Kgs-cm Servo(Metal Gear)		
G36173	Round Head Svrew 4x48x6pcs	G82106	30Kgs-cm Servo		
G36192	Round Head Screw 3x22x6pcs				
G36193	Round Head Screw 3x15x6pcs				
G36194	Round Head Screw 3x18x6pcs				
G36211	Cap Screw 4x40x6pcs				
G36214	Cap Screw 4x25x6pcs				
G36216	Cap Screw 4x20x6pcs				
G36217	Cap Screw 4x80x6pcs				

Parts list

GL001 Gear Box Set 	GL002 Front Shock Tower Set (Buggy) 	GL003 Longer Shock Tower Set 	GL004 Radio Tray Set 	GL005 Steering Bell Crank Set 	GL006 Front Upper Plate 	GL007 Engine Mount 
GL008 Center Gear Mount 	GL009 Main Gear Set (30T,33T/TR,BG) GL010 2nd Gear Set (24T,25T) 	GL011 Receiver Box Set 	GL012 Gear Cover Set 	GL013 Fuel Tank Set 	GL014 Fuel Tank Mount 	GL015 Central Front Shaft (for 4WD) 
GL016 Foam Washer 8x17x3 	GL017 Front / Rear Bevel Gears 	GL018 Diff Gear Set 	GL019 Diff Case 	GL020 Center Bevel Gears 	GL021 Brake Hub 	GL022 Drive Cup Set 
GL023 Brake Disk 	GL024 Brake Shaft Set 	GL025 Brake Stand 	GL026 Clutch Bell 	GL027 Brake Rod and Pads 	GL028 Counter Shaft 	GL029 Wheel Driver Set 
GL030 Central Rear Shaft 	GL031 Upper Suspension Shaft Set 	GL032 Rear Axle Set 	GL033 Steering Post Set 	GL034 Servo Saver Unit 	GL035 Fuel Tube Set 	GL036 Steering Turnbuckles 
GL037 Chassis 	GL038 Center Gear Upper Plate 	GL039 Roll Cage Roof Piece 	GL040 Engine Plate 	GL041 Center Roll Cage Set 	GL042 Rear Roll Cage Set 	GL043 Front Roll Cage Set 
GL044 Steering Servo Turnbuckle Set 	GL045 Steering linkage Set 	GL046 Throttle Linkage Set 	GL053 Steering Hub Set 	GL054 C-Hub Set 	GL055 Front Lower Suspension Arms 	GL056 Front Upper Suspension Arms 
GL057 Front Lower Hinge Pins 	GL058 Front CVD (for 4WD) 	GL059 Rear Wheel Hub 	GL060 Rear Lower Suspension Arms 	GL061 Rear Upper Suspension Arms 	GL062 Rear Swing Shafts 	GL063 Longer Shock Set 
GL064 Rear Lower Hinge Pins 	GL065 Body Mount Set (MT) 	GL066 Bumper (MT) 	GL067 Central Gear Shaft 	GL069 Wheel Set (Truggy) 	GL070 Shock Plastic Parts 	GL071 Shock Diaphragm (4pcs) 
GL072 Shock Piston(4pcs) 	GL073 Shock O-Ring Set 	GL074 Front Shock Set (Buggy) 	GL075 Bumper (Buggy,Truggy) 	GL076 Wing (Buggy,Truggy) 	GL077 Wing Bracket (Buggy,Truggy) 	GL078 Body Mount Set (Buggy) 
GL079 Wheel Set (Buggy) 	GL080 Front Shock Rods (Buggy) GL081 Longer Shock Rods 	GL085 Main Gear Set (24T,39T/MT) 	GL086 BumperMount (MT) 	GL087 Bumper Brace (MT) 	GL088 Front Shock Alum. Parts(Buggy) GL089 Longer Shock Alum. Parts 	GL091 Wheel Set (MT) 
GL099 Wheels(SC)/2pcs 	GL100 Main Gear Set (27T,36T/SC) 	GL110 Flash Body(Matrix 5-SC) GL111 Clear Body(Matrix 5-SC) GL112 Body Decal(Matrix 5-SC) 	GL204 Front Bumper Set (SC) 	GL205 Raer Bumper Set (SC) 	GL206 Rear Lower Bumper (SC) 