Apollo Crawler Truck – Assembly Instructions:

The trucks are a project unto themselves and each consists of a pair of tracks that propel the crawler. Four of the trucks need to be made. In addition to the printed parts, various sizes of wire is required to both tie together the tread segments and to add detail piping and wiring. The truck assembly is divided into the following sections: Motors, Trucks, Tracks and Final Assembly. The part count is for one truck. To make the four trucks, multiply each number by four.

Motors:

The motors consist of the following parts:

2 – Truck Motor
2 – Truck Motor – Flipped
4 – Motor Shaft
4 – Motor Disk
2 – Truck Motor Gears – Left
2 – Truck Motor Gears – Right
4 – Gear End
2 – Air Duct – Left
2 – Air Duct – Right
4 – Truck Filter Box

The motor disk should be printed so the forward facing portion of the disk is down on the glass to give a smooth surface. There are two front disk caliper pieces that also print and should be glued to the smooth surface of the disk. The center hole needs to be drilled out to the size of the front motor shaft. If the hole you drill is a little too large, then use an extrusion strip from the printer as a wedge to hold the disk in place before applying glue.

A motor shaft is glued to the other side of the motor, centered on the motor. All four motor assemblies should now be painted a light grey along with all the other parts. The disk calipers are painted a bright blue and the edges of the disks painted a copper or similar color. You can also paint the motor shafts a metallic silver.

The each motor is now glued to a truck motor gear platform. One air duct is glued to the underside of each truck motor gear platform below the motor with the round portion hanging down. An air box is now glued to this round portion. On the side closest to the motor platform, glue a gear end to the round portion.

Add wires as brake lines between the calipers and that route to the underside.

Trucks:

The trucks consist of the following parts:

1 – Truck Face Plate
3 – Truck Face Plate Backside
2 – Truck Inner Part 1
2 – Truck Inner Part 2

Glue the parts as two sets: plate/part 1/part 2/backside and backside/part 1/part 2/backside. Only the front facing side has the Truck Face Plate. The backsides are mostly flat so that they can be glued to the center section and the lower steering arm. Add a 28 gauge wire per the photo. These lines are for oiling the rotating wheels and electrical conduit.

Tracks:

Each tread has 52 track segments. The segments interlock using a thin gauge wire. Use a 24 gauge copper wire that is just a bit smaller than the holes. Bend over a bit of one end of the wire to form a nub that is pushed into the plastic. At the other end (the inside) cut off the wire as short as possible and then bent that end down, flush with the inside edge. The tracks are installed last. This is a good time to paint the tracks grey on the inside and a dirt brown on the part of the tracks that contact the ground.

Final Assembly:

The final parts listed below are used in conjunction with the sub-assemblies created above.

1 – Truck Center

1 – Steering Arm Upper – Left

1 – Steering Arm Upper – Right

2 – Steering Arm Lower

2 – Wiring Harness Main

2 – Wiring Harness Side

Glue each of the trucks to the center section, making sure the resulting piece sits flat. Now glue each of the four motor assemblies so they have one side glued to the center section and another side glued to the inside of a truck. The two pieces of the upper steering arms are attached to the lower steering arm pieces and the resulting pieces are glued to the truck center section on the slanted sections. Pay particular attention to the correct side. The outside of the assembly is identified by the truck with the detail.

Now glue the two pieces of the wiring harness together to form a wiring harness. Each wiring harness is glued to the top of the upper steering arms. Now black wires are run from the underside of the electrical box on the inside of each motor up and over to the top of the wiring harness. There are three wires per motor.