

## **SPRING RIDERS**

### **Coil Spring, C-Spring or Torsion Spring**

### **Rotomolded Plastic, Poly Sheet or Metal**

**USER GROUP:** 2 - 12

**RECOMMENDED CREW:** 2 people

**TOOLS REQUIRED:**

T45 TORX tool (supplied by manufacturer)

Level

Tape measure

Auger / Post hole digger / Shovel

Heavy cardboard for 18" diameter x 24" round concrete form (sonotube) - for coil springs

Template for J-bolts (20"x20") - for coil springs

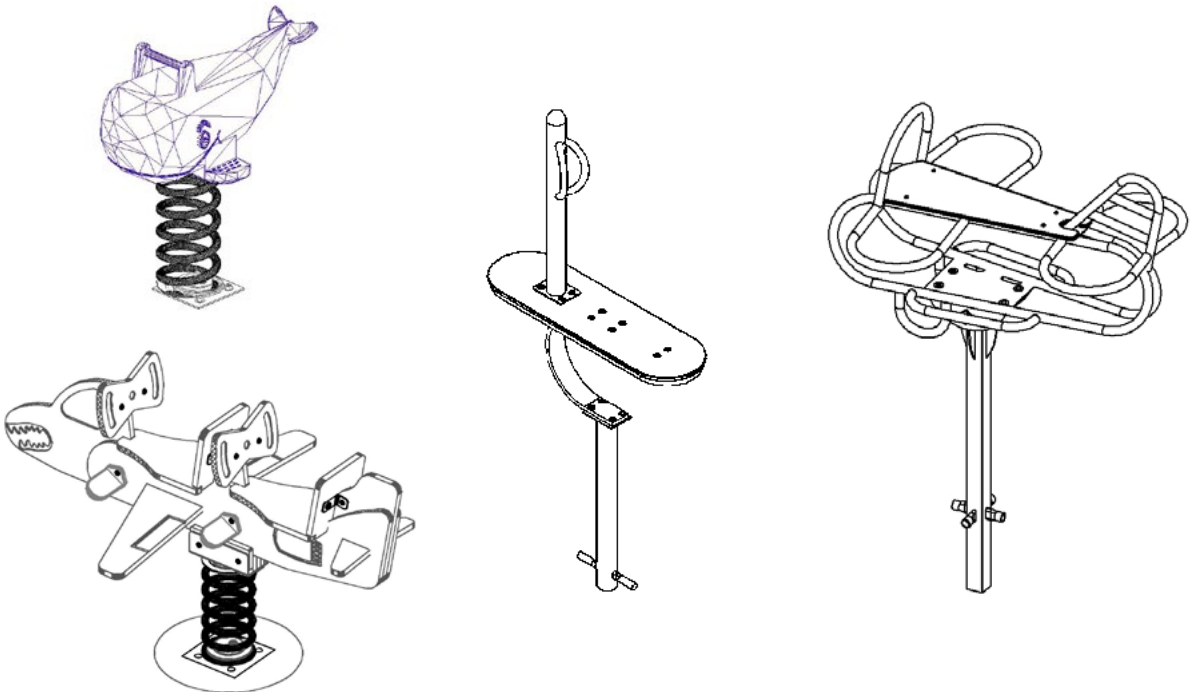
High speed 3/8" electric drill w/*clutch*

**NOTE:** Use of any other driver may result in damage to tool and/or hardware!

**INSTALLATION TIME:** 1-2 hours

**CONCRETE REQUIRED:** 3.53 cubic feet

**NOTE:** Concrete must have a minimum rating of 2,500 psi and must be mixed per manufacturer's recommendations.



**PRE-INSTALLATION CHECK:**

Compare all items received to the packing list. Notify your local sales representative immediately if any parts are missing or damaged.

**We are not responsible for items discovered missing or damaged  
after 72 hours from time of delivery!**

Before beginning installation, make sure that you have read and understand the *Installation Introduction* manual that was supplied to you. If you did not receive a copy, or if you have a question regarding anything covered in this manual, contact your local sales representative.

**FOR SPRING RIDERS USING A TORSION SPRING****STEP 1**

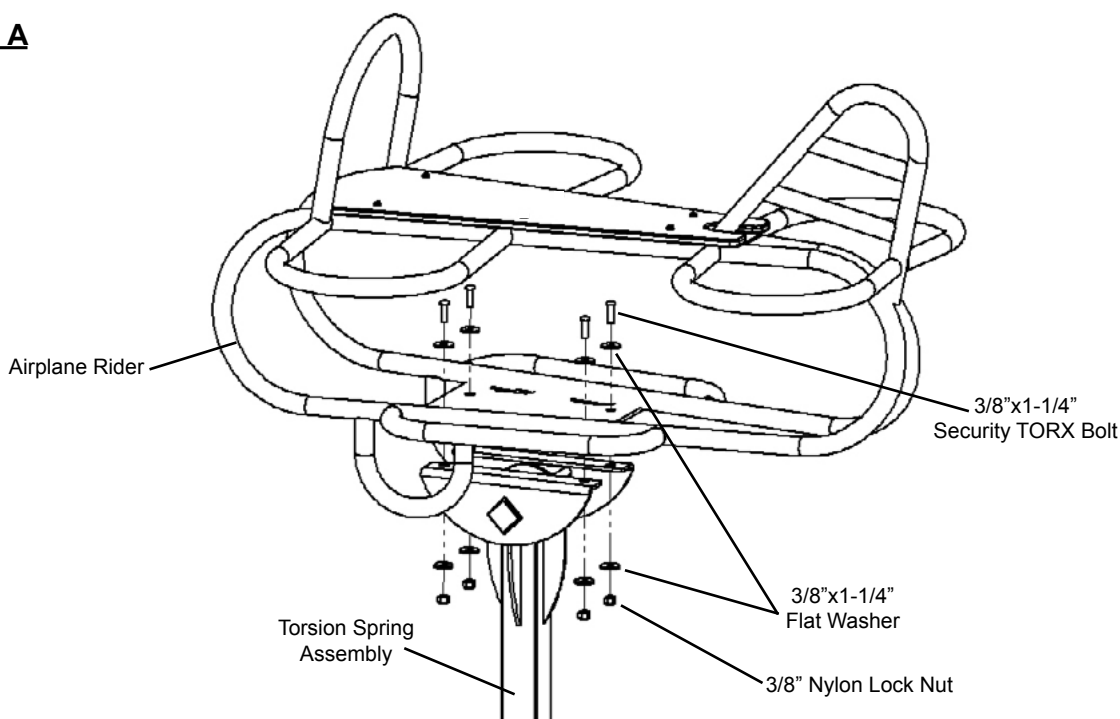
Refer to PLAN VIEW and FOOTING LAYOUT to locate spring rider.

**STEP 2**

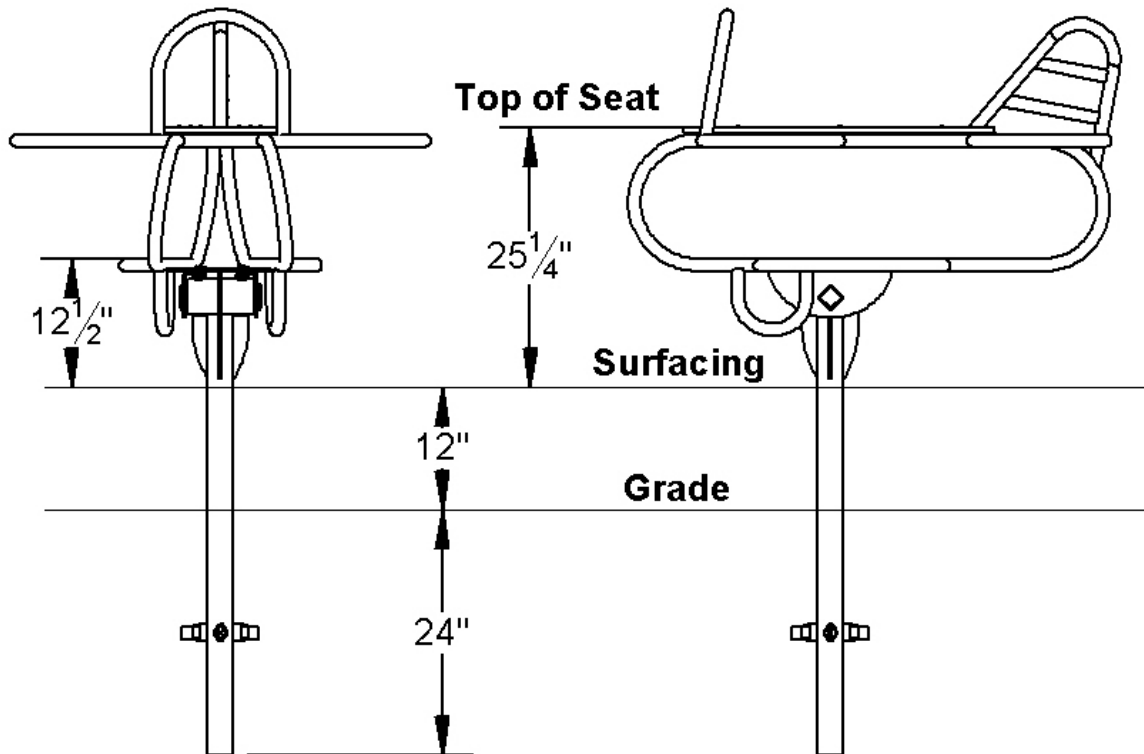
Excavate footing as shown in FOOTING LAYOUT and FOOTING ELEVATION. Place a 2" spacer in bottom of hole.

**STEP 3**

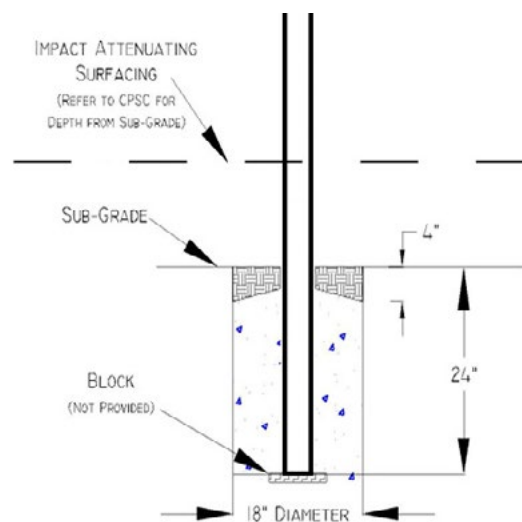
Select torsion assembly with ground anchor, metal rider, four 3/8"x1-1/4" security TORX bolts, eight 3/8"x1-1/4" washers and four 3/8" nylon lock nuts. Attach metal rider to torsion assembly by inserting bolt through washer, rider, torsion assembly, washer and gently tighten into nut. Repeat for other hardware. Then tighten all hardware.

**Detail A****STEP 4**

Set rider assembly in place in footing. Block and brace into position, assuring that rider is plumb, level and at correct height. (See ELEVATION VIEW on next page). Pour concrete in footing to correct level. Fill remainder of hole with dirt. **Allow concrete to harden for at least 48 hours before use!** Concrete must have a minimum rating of 2,500 psi and must be mixed per manufacturer's recommendations.



**ELEVATION VIEW**



**FOOTING ELEVATION**

## INSTALLATION GUIDELINES

### FOR SPRING RIDERS USING A C-SPRING

#### STEP 1

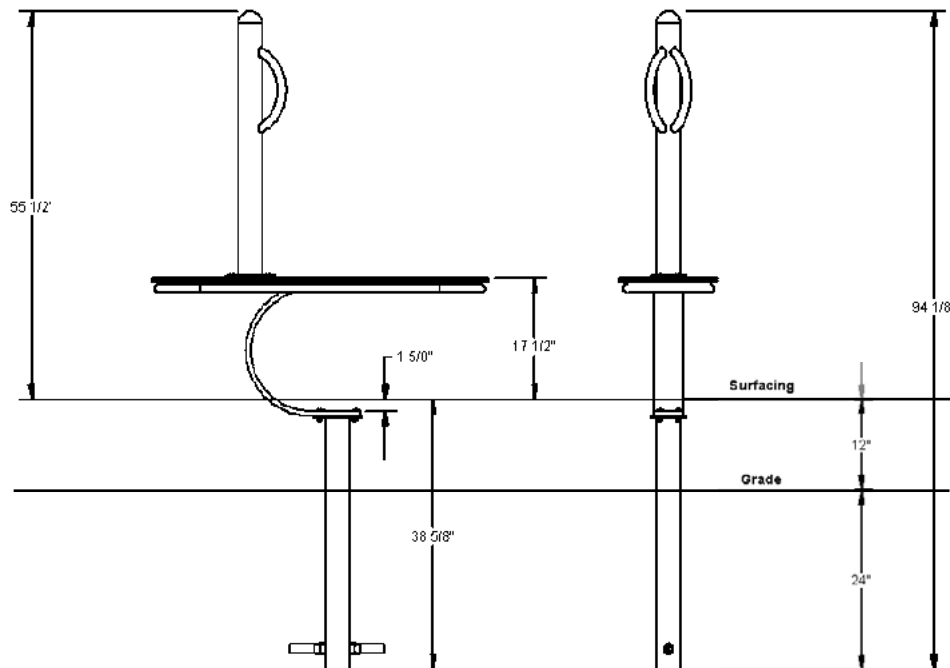
Refer to PLAN VIEW and FOOTING LAYOUT to locate position of surf rider. Excavate footing hole as shown in Footing Elevation. Use heavy cardboard or tube to form the portion of concrete cylinder above hard grade. Top of form should stand 8" above grade.

#### STEP 2

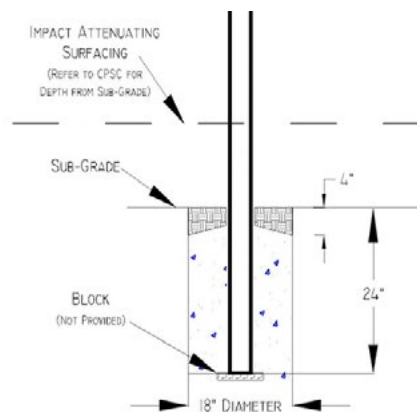
Place Surf Rider in position. Block and brace to correct height and make sure that it is level. **NOTE:** Top of "surfboard" needs to be 17-1/2" above finished surfacing.

#### STEP 3

Fill the hole and form with concrete until concrete reaches base plate, making sure that Surf Rider is level and at correct height. Bevel top edge of concrete to eliminate sharp corner. **Allow concrete to harden for at least 48 hours before use.**



**ELEVATION VIEW**



**FOOTING ELEVATION**

**FOR ROTOMOLDED SPRING RIDERS USING A COIL SPRING****STEP 1**

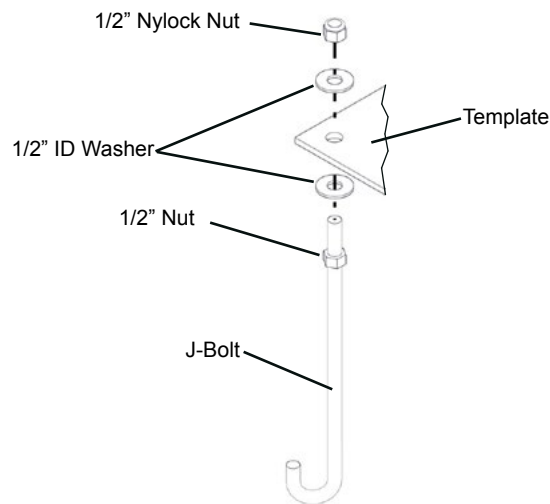
Make a template out of poly sheet, plywood, etc. (approximately 16"x16"). Place spring rider in center of template and drill four holes through the pre-drilled holes in the base plate through the template. Remove spring rider.

**STEP 2**

Select four 1/2"x12-1/2" SS J-bolts, eight 1/2" ID flat SS washers, four 1/2" SS nylock nuts and four 1/2" standard nuts. Install one standard nut on each J-bolt as close to the same distance from each end as possible. Leave enough room to allow template, washer and nut to be installed.

**STEP 3**

From one side of template, insert J-bolt with nut through template and install washer and nylon lock nut on other side. J-bolts should be installed with ends facing outward. See Detail A. Gently tighten. Repeat for remaining J-bolts and hardware.

**Detail A****STEP 4**

Pour concrete in footing to correct level (see ELEVATION VIEW). Concrete must have a minimum rating of 2,500 psi and must be mixed per manufacturer's recommendations. Center template over footing with J-bolts facing down. **NOTE:** Leave a 1" space between concrete and template. Bevel edges of concrete to eliminate sharp corner. Make sure template is level and centered over hole. **Allow concrete to dry overnight before continuing.**

**STEP 5**

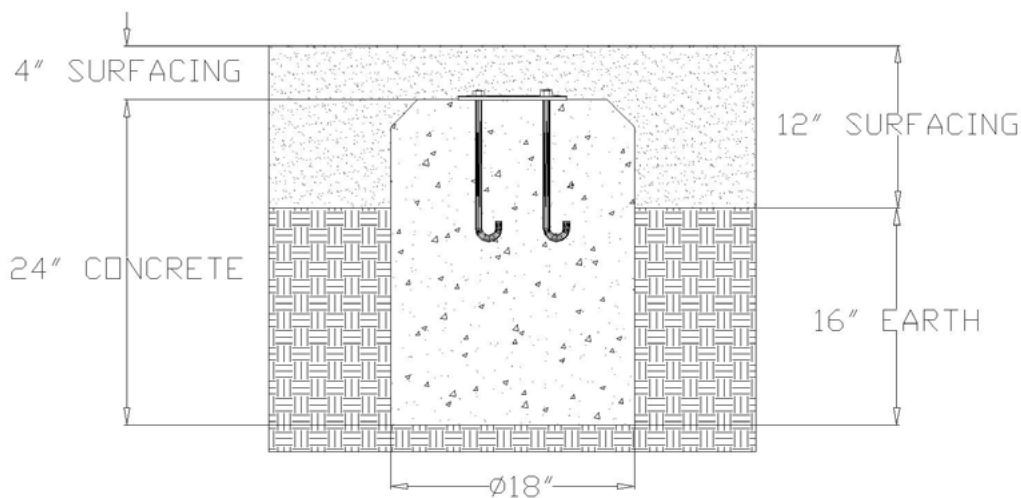
After concrete has dried overnight, remove top nuts and washers and remove template. Set spring rider in place and reinstall washers and nuts. Make sure rider is level, at correct height and that all hardware is tight. **NOTE:** Bottom of body will be 12-1/2" above finished surfacing (see ELEVATION VIEW).

**STEP 6**

Excavate footing hole as shown in FOOTING ELEVATION. Use heavy cardboard to create a mold or sonotube for the concrete (18" diameter by 24" high). Place the sonotube in the hole.

**STEP 7**

Fill the hole and form with concrete until it reaches top of tube. Bevel top edge of concrete to eliminate sharp corner. Press J-Bolts into concrete. **Allow concrete to harden for 24 hours before continuing assembly.**



**Footing Elevation**

**NOTE:** Footing Elevation shown with 12" of surfacing and 8" of concrete above grade. The height of your concrete above grade will vary depending on your surfacing depth. **You must maintain 4" of surfacing above base plate and at least 16" of concrete in ground. Also, seat height of rider must be between 14" and 28" above finished surfacing.**

## STEP 8

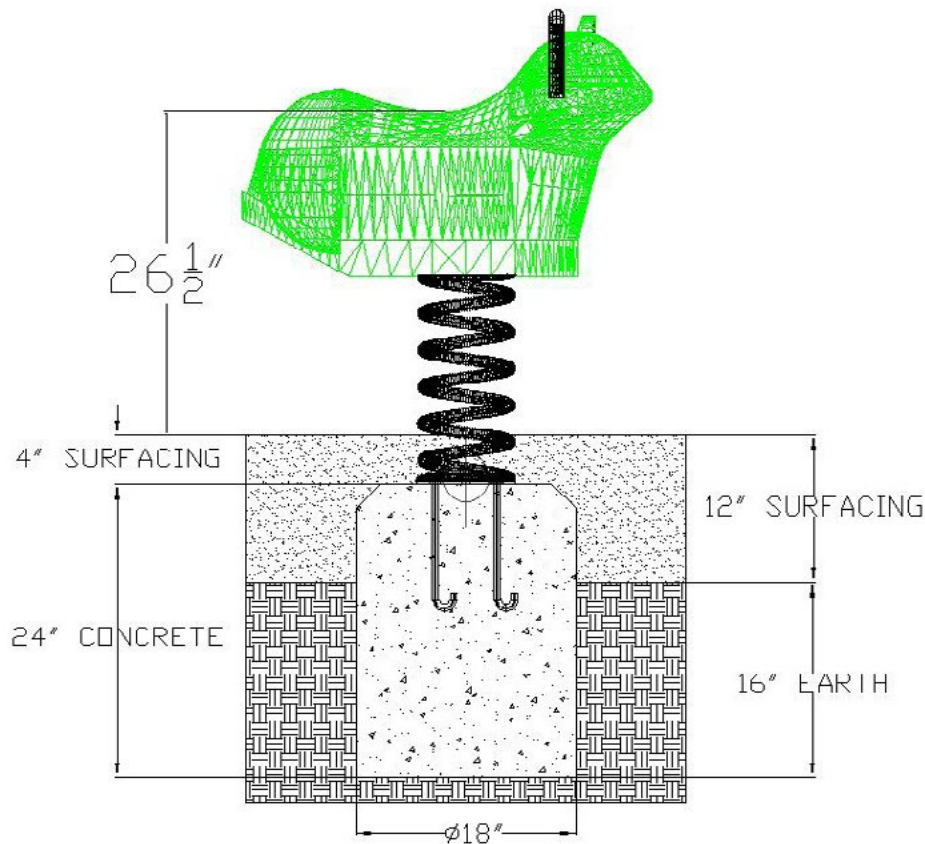
Select rider, spring assembly, four 3/8"x1" TORX head bolts and four 3/8"x1-1/4" flat washers. Align holes in top plate with holes in rider. **NOTE:** The end plate with the largest holes will attach to the rider - plate with smallest holes attaches to concrete. Attach spring to rider by inserting bolt through washer and into rider. Gently tighten until all hardware is installed - then tighten all.

## STEP 9

Detach template from concrete. **NOTE:** Installer may choose to provide four additional 1/2" nuts to install on J-Bolts before rider is attached to act as leveling nuts. Slide holes in base plate over J-bolts in concrete and install and tighten nuts on top of base plate.

## STEP 10

Select rider assembly. Align holes in bottom plate with J-bolts in concrete. Set rider in place. Secure rider to concrete using hardware removed in Step 5. Gently tighten until all hardware is installed. Then tighten all. **NOTE:** May have to use leveling nuts or shims under bottom plate to level rider.



**ELEVATION VIEW (frog rider shown)**

**NOTE:** Footing Elevation shown with 12" of surfacing and 8" of concrete above grade. The height of your concrete above grade will vary depending on your surfacing depth. **You must maintain 4" of surfacing above base plate and at least 16" of concrete in ground. Also, seat height of rider must be between 14" and 28" above finished surfacing.**

**FOR POLY SHEET SPRING RIDERS USING A COIL SPRING****STEP 1**

Select four 1/2"x12-1/2" SS J-bolts, eight 1/2" ID flat SS washers, four 1/2" SS nylock nuts and four 1/2" standard nuts. Install one standard nut on each J-bolt as close to the same distance from each end as possible. Turn the spring assembly over on its side. Insert the threaded ends of the four anchors up through the bottom four holes in the spring assembly base plate (See Anchor Detail).

**STEP 2**

Place one washer over each anchor end. Thread one nut onto each anchor until the threads just start to exit nut. Anchor bolts will dangle from base plate when the spring assembly is positioned above concrete form (see Anchor Detail).

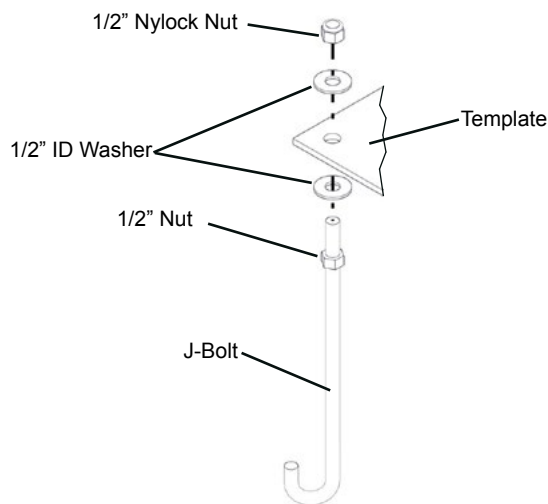
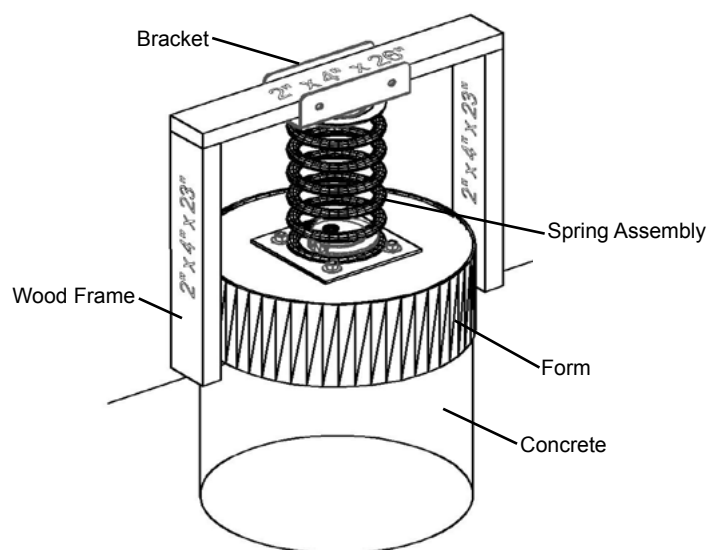
**STEP 3**

Excavate footing hole as shown in footing elevation below. Use heavy cardboard, or tube to form the portion of concrete cylinder above hard grade. Top of form should stand 8" above grade.

**NOTE:** Footing is based on 12" of surfacing and 8" of concrete above grade. The height of your concrete above grade will vary depending on your surfacing depth. **You must maintain 4" of surfacing above base plate and at least 16" of concrete in ground.**

**STEP 4**

Block and brace spring assembly over the top center of the form. A frame constructed from scrap wood works well (see Spring Assembly Detail). The rider bracket should be oriented with open ends in direction that rider will face. Base plate bottom should be level with top edge of form. Level entire spring assembly.

**Anchor Detail****Spring Assembly****STEP 5:**

Fill the hole and form with concrete until it reaches top of tube. Bevel top edge of concrete to eliminate sharp corner. **Allow concrete to harden for 24 hours before continuing assembly.**

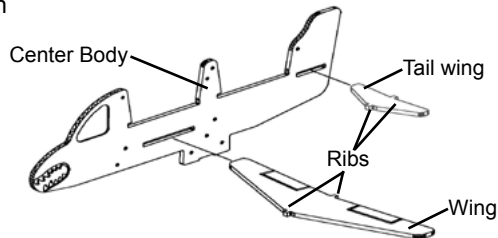


## **STEP 6 (for Jet Rider and Shuttle Rider only):**

Select center body, wing and tail wing sheet plastic parts (for Jet Rider). With wing flap graphic cuts facing up, slide wing through front slot in center body. Using a rubber mallet, tap wing end until the ribs at wing midpoint are centered within slot. Repeat this procedure for tail wing in rear slot if applicable (See Detail A).

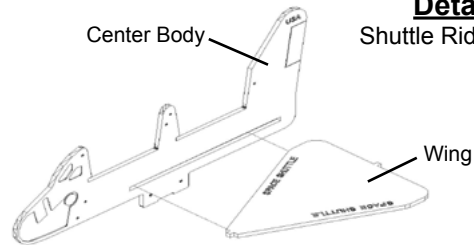
### **Detail A**

Jet Rider shown



### **Detail A**

Shuttle Rider shown

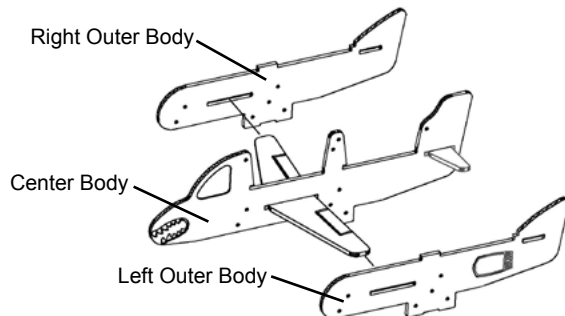


## **STEP 7**

Select right and left outer body parts. With graphics facing outward, slide the right and left outer bodies over their respective wing ends (applies to Shuttle Rider and Jet Rider). Tap with rubber mallet until outer bodies are flat against center body (See Detail B). For Fire Truck, select four foot rests, four 3/8"x3" button head bolts and four 3/8"x3/4" barrel nuts. Attach foot pegs as shown in Detail B.

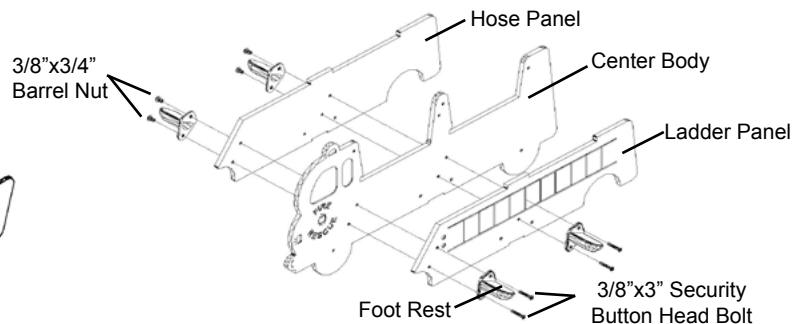
### **Detail B**

Jet Rider shown



### **Detail B**

Fire Truck Rider shown

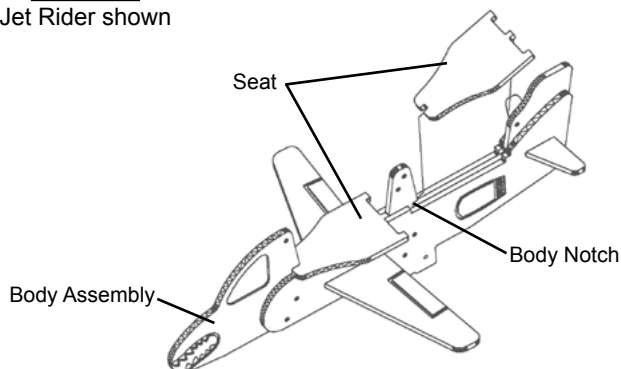


## **STEP 8**

Select one plastic seat. From the top, slide the notch at the front of the seat down into the notch in the center body. Press down on rear of the seat until it rests on body assembly. The rib at the tail of seat may need tapped into position with the rubber mallet. Repeat procedure for second seat if applicable (See Detail C).

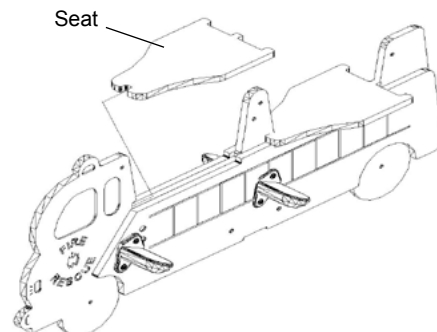
### **Detail C**

Jet Rider shown



### **Detail C**

Fire Truck Rider shown

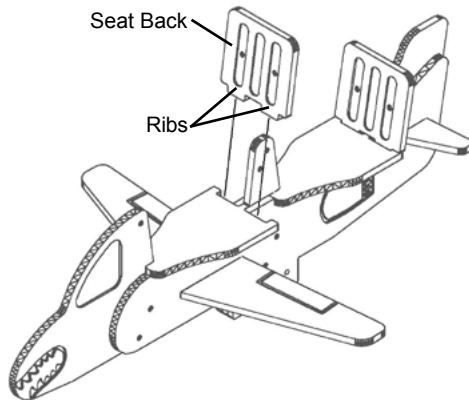


## STEP 9

Select seat back. With graphic cuts forward, slide each seat back with ribs downward into the openings at the back of each seat. Tap into position with rubber mallet (See Detail D). Repeat for other seat if applicable.

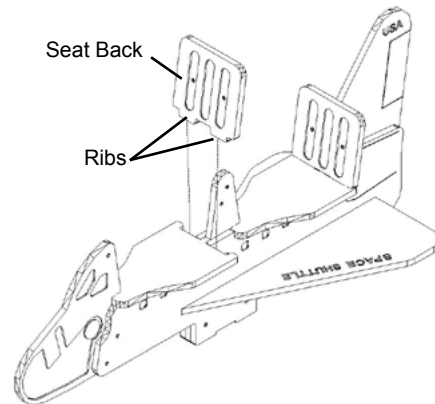
### Detail D

Jet Rider shown



### Detail D

Shuttle Rider shown



## STEP 10

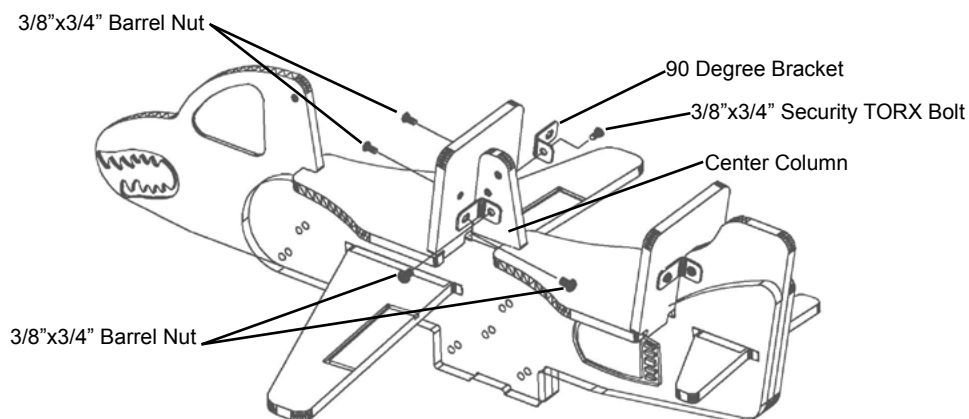
Select one 90 degree bracket, one 3/8 x 3/4" barrel nut, and one 3/8"x3/4" security button head bolt. Align slot on long leg of bracket with hole in the seat back. From the back, place barrel nut through bracket slot and into hole in seat back. Insert security bolt into seat from the front. Gently tighten hardware. Repeat process for bracket on opposite side of center column (See Detail E). **NOTE:** All seat backs install in the same manner. Repeat for other seat if applicable.

## STEP 11

Pivot both brackets so that holes on short legs are aligned with the lower foremost hole in center column. Insert a 3/8"x3/4" barrel nut through the closest bracket and into the center column. Insert a 3/4" security bolt through the opposite bracket. Fully tighten all hardware (See Detail E). **NOTE:** All seat backs install in the same manner. Repeat for other seat if applicable.

### Detail E

Jet Rider shown



## STEP 12

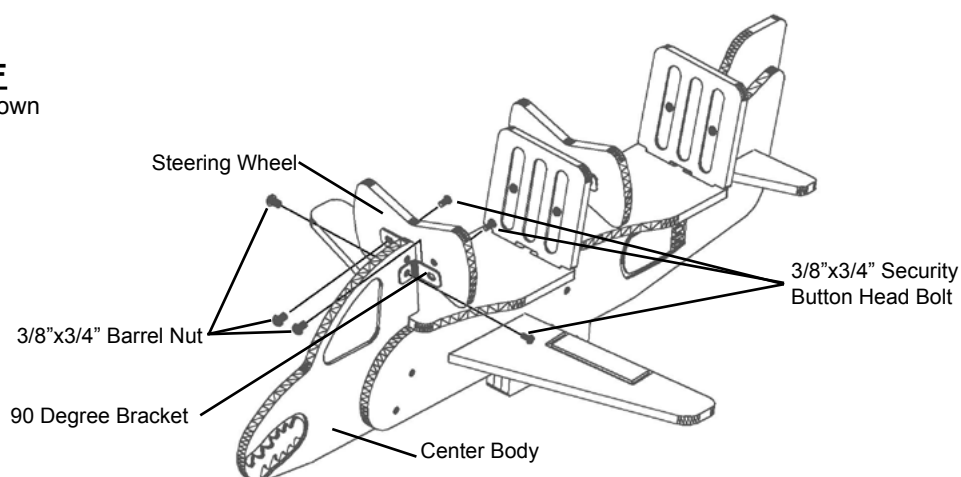
Select one steering wheel, one 90 degree bracket, one 3/8"x3/4" barrel nut, and one 3/4" button head security bolt. Align slot on long leg of the bracket with one of the holes on the back (non graphic) side of the steering wheel. Insert barrel nut through the bracket slot and into wheel hole. Insert security bolt through the front side of steering wheel. Gently tighten hardware. Repeat procedure for bracket on opposite side of center body (See Detail F). **NOTE:** All steering wheels attach in the same manner, although they may have a different appearance depending on the style of rider.

## STEP 13

Select one 3/8" x 3/4" barrel nut and one 3/8"x3/4" security button head bolt. Pivot 90 degree brackets so that holes on short legs are aligned. Slide the steering wheel assembly down over the center body until holes in brackets align with those in body. Insert barrel nut through bracket and into center body. Insert security bolt into opposite bracket. Fully tighten all hardware (See Detail F). Repeat steps 12-13 for remaining steering wheel attachment if applicable. **NOTE:** All steering wheels attach in the same manner.

### Detail F

Jet Rider shown

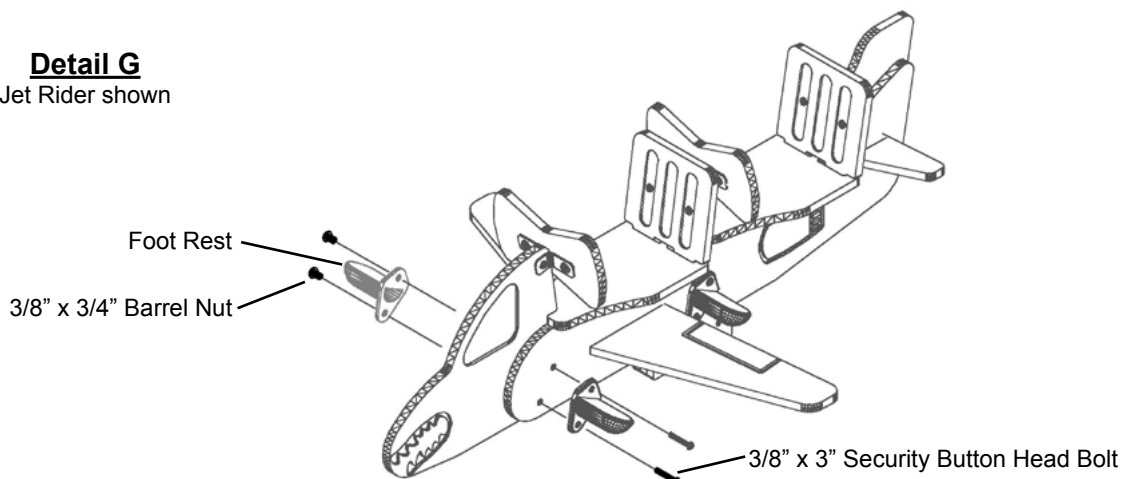


## STEP 14

Select two footrests, two 3/8"x3" security button head bolts and two 3/8"x3/4" barrel nuts. Tap both barrel nuts into holes in one of the footrests. Align barrel nut ends with the two holes at the leading edge of outer body. Be sure that flat portion of footrest faces toward seat. Align second footrest with holes on the opposite outer body. Insert security bolts into footrest, and through the outer body holes. Secure all hardware (See Detail G). Repeat procedure for rear set of footrests if applicable. **NOTE:** For fire truck rider, footrests have already been installed.

### Detail G

Jet Rider shown

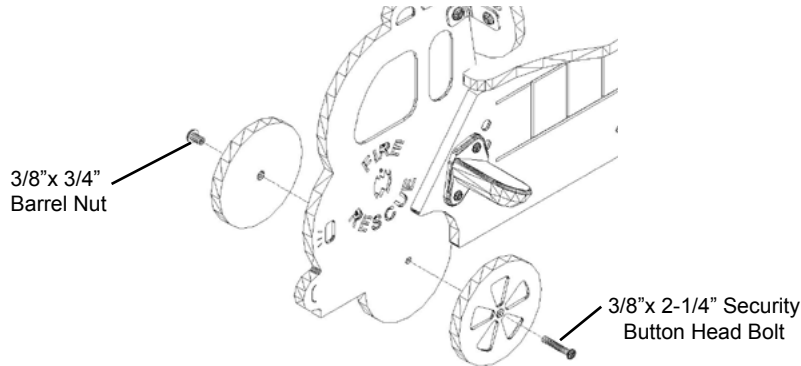


## **STEP 14B for Fire Truck Rider**

Select two wheels, one 3/8"x2-1/4" security button head bolt and one 3/8"x3/4" barrel nut. From outside of wheel (graphic cuts side) tap barrel nut into wheel. From outside of other wheel (graphic cuts side) insert bolt through wheel, main body, other wheel and into barrel nut. Tighten hardware. Repeat process for rear wheels (see Detail F).

### **Detail F**

Fire Truck Rider only



## **STEP 15**

Select two rectangular plastic spacers, two 3/8"x3/4" barrel nuts and two 3/8"x4" security button head bolts. Place one spacer along each inside wall of spring assembly bracket. Align holes in spacers with those in bracket sides. One person should lift the rider body and insert it into the bracket between the spacers. Align holes in rider body with holes in bracket and spacers. A second individual then inserts two barrel nuts through one side of bracket holes and into spacer. This individual then inserts two security bolts through holes in opposite bracket side. Fully tighten all hardware (See Detail H). **NOTE:** Allow concrete to harden for at least 48 hours (total) before use.

### **Detail H**

