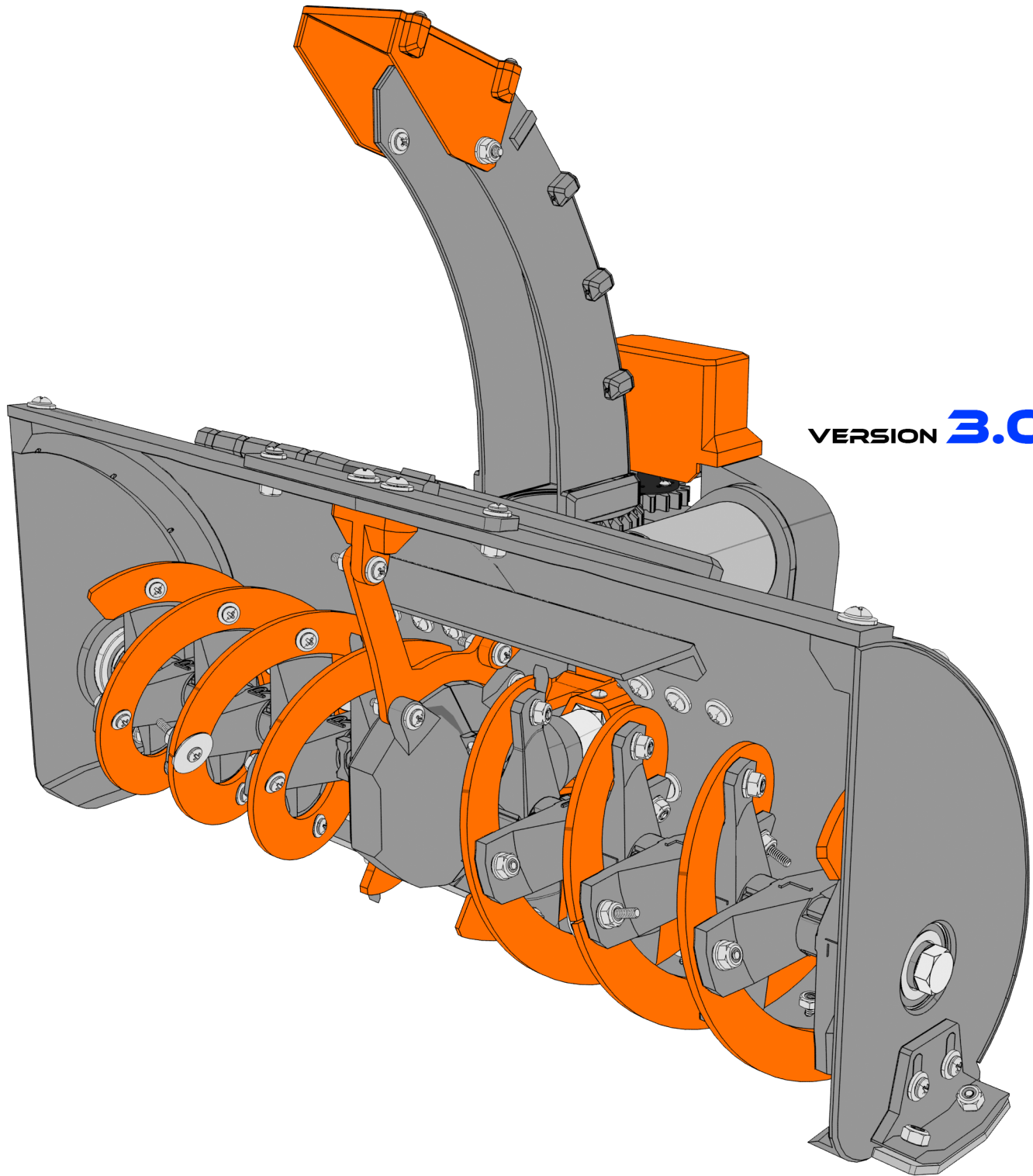


SPYKER WORKSHOP

FUNCTIONAL 3D PRINTING



VERSION 3.0

SNOW BLOWER MANUAL
DESIGNED BY MOO SPYKER

INTRODUCTION

Thank you for your purchase of your very own 3d printed snow blower!
 This machine can be a lot of fun but always keep in mind how dangerous it is.

- ! NEVER stick your hands inside the machine while it is still plugged in. UNPLUG IT!
- DO NOT aim the shoot towards anyone while in operation.

Please use common sense when operating this machine, treat it like you would a full sized snow blower!
 Spyker Workshop is not responsible for any harm caused from the use of this machine.

You can follow along with this instruction manual on our YouTube video build series.
 Find the video here: www.youtube.com/user/thegreatestmoo

See **OPERATION** and **ELECTRONICS** on the next page for setup and blower use.

ITEMS REQUIRED

See the **HARDWARE** page at the back of this manual to see all the hardware you need to complete the assembly of this kit.

You also need the following:

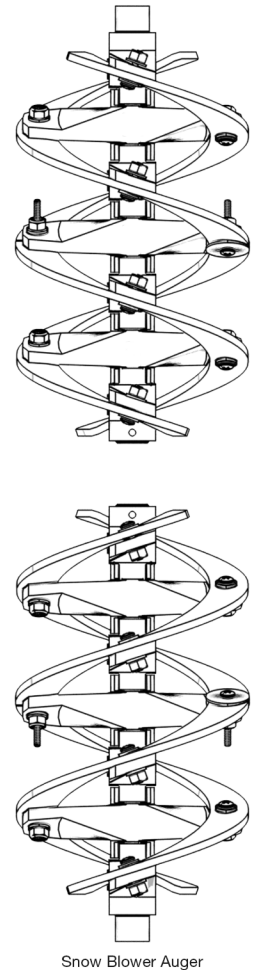
- Super Glue
- Grease
- Threadlock
- Common household tools (Philips screw driver, pliers, wrench, etc.)
- Sandpaper / File (Some parts may require additional work to fit together properly)

ELECTRONICS

- 5 channel radio or more
- Servo modified for continuous rotation (Info around the web for how to do this)
- Servo for lifting blower up and down
- 540 or 550 Sized brushed motor
- Speed controller (Make sure to remove the red wire from the ESC plug)

MOUNT

- Mounting system (For Kyosho Blizzard purchase mount kits separately)
- Design your own mounting system to connect to other RC vehicles



Snow Blower Auger

MANUAL WORKFLOW

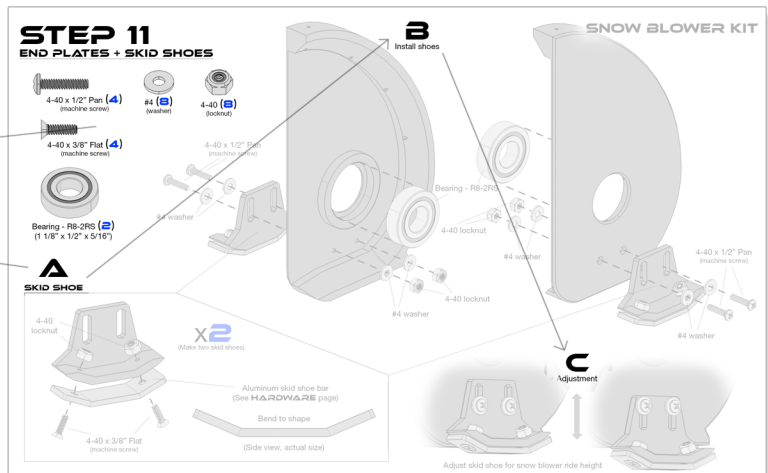
This instruction manual has an easy to follow format on each page.

Under each step lists all the hardware needed for the current step.

Most steps have an order to follow **A, B, C**, etc.

Make sure you read all the text on each step so you don't miss anything!

- ! Start off by drilling out all your parts using the **DRILL GUIDE** on the back.



If you get stuck on any part during the build you can email me at spyker.sales@hotmail.com for assistance, have fun!

OPERATION

HOW TO USE YOUR BLOWER

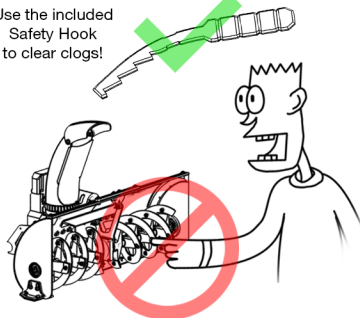
SNOW BLOWER KIT

Best used in cold temperatures below 30F (20F is ideal).
High humidity will effect the blowers performance (Wet snow).

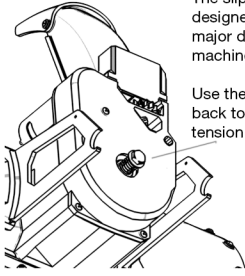
Once you start using the machine, you should try to keep it always spinning to prevent freezing up. Idle the auger at low RPM between blowing snow.

If your machine clogs up, power the machine off and clear the blockage carefully.

Use the included Safety Hook to clear clogs!



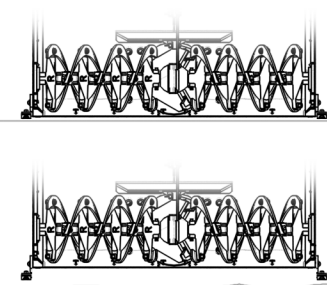
! NEVER stick your hands inside the machine while it is still plugged in. UNPLUG IT



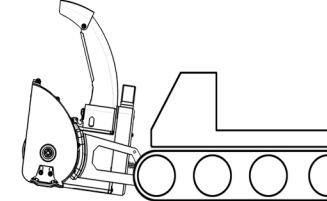
The slipper clutch is designed to prevent major damage to the machine.

Use the bolt on the back to adjust the tension of the system.

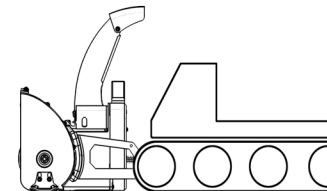
Tighten = More powerful / Risk of damage
Loosen = Less chance of damage



Adjust the skid shoes for uneven surfaces to prevent getting hung up on the ground



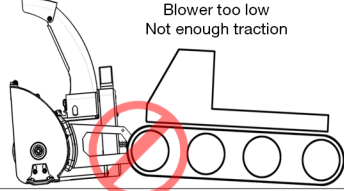
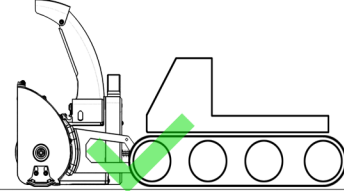
Lift the blower up to turn and maneuver the machine.



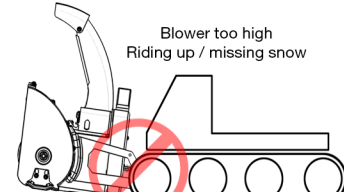
The chute can aim directly behind the machine when using a 360 degree servo.

Adjust the angle of the blower for best performance. Continually adjust depending on ground contour.

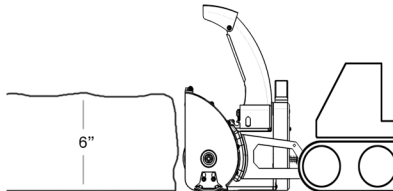
Blower too low
Not enough traction

Blower too high
Riding up / missing snow



The blower can handle up to 6 inches of fresh powdered snow

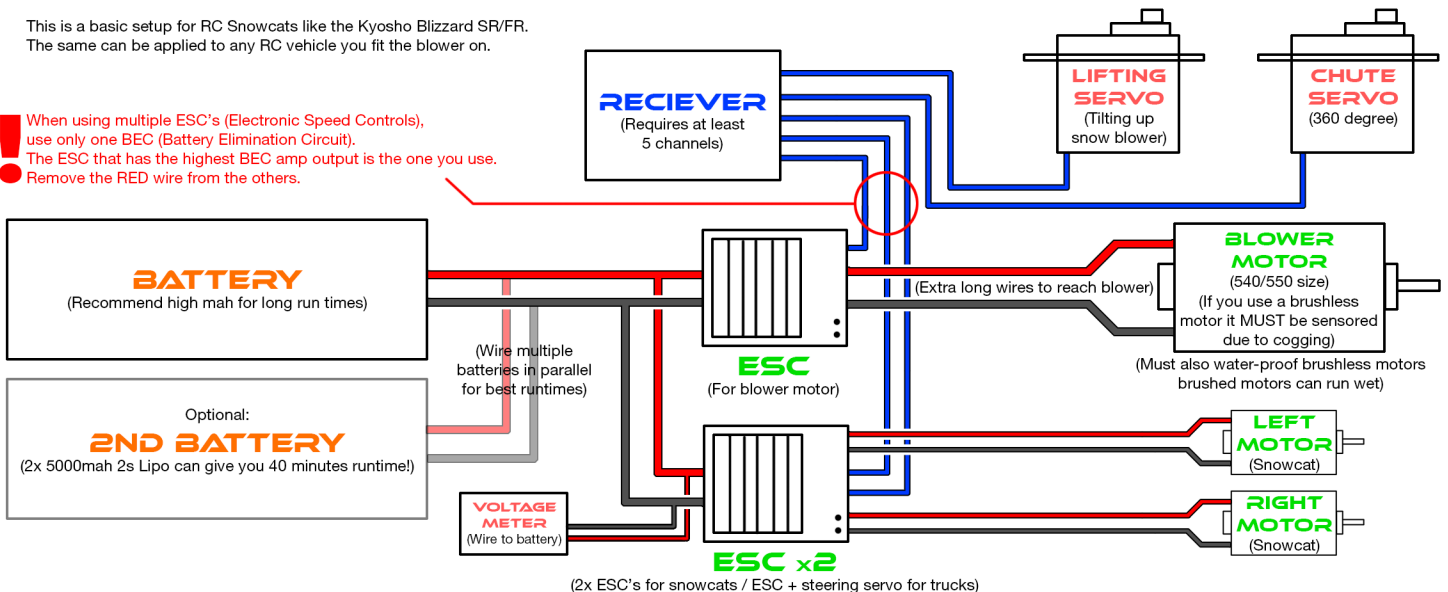


ELECTRONICS

BASIC SETUP

This is a basic setup for RC Snowcats like the Kyosho Blizzard SR/FR. The same can be applied to any RC vehicle you fit the blower on.

- When using multiple ESC's (Electronic Speed Controls), use only one BEC (Battery Elimination Circuit).
- The ESC that has the highest BEC amp output is the one you use.
- Remove the RED wire from the others.

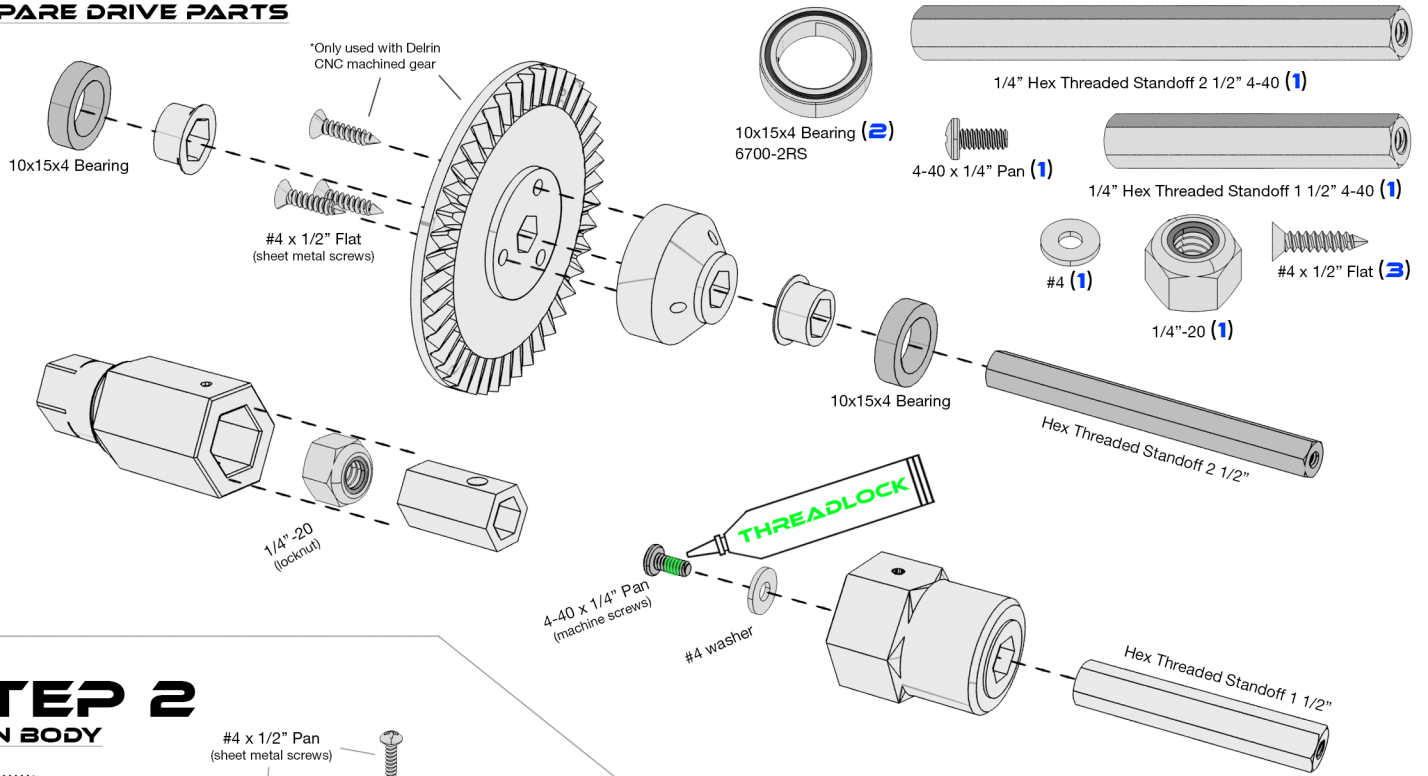


STEP 1

PREPARE DRIVE PARTS

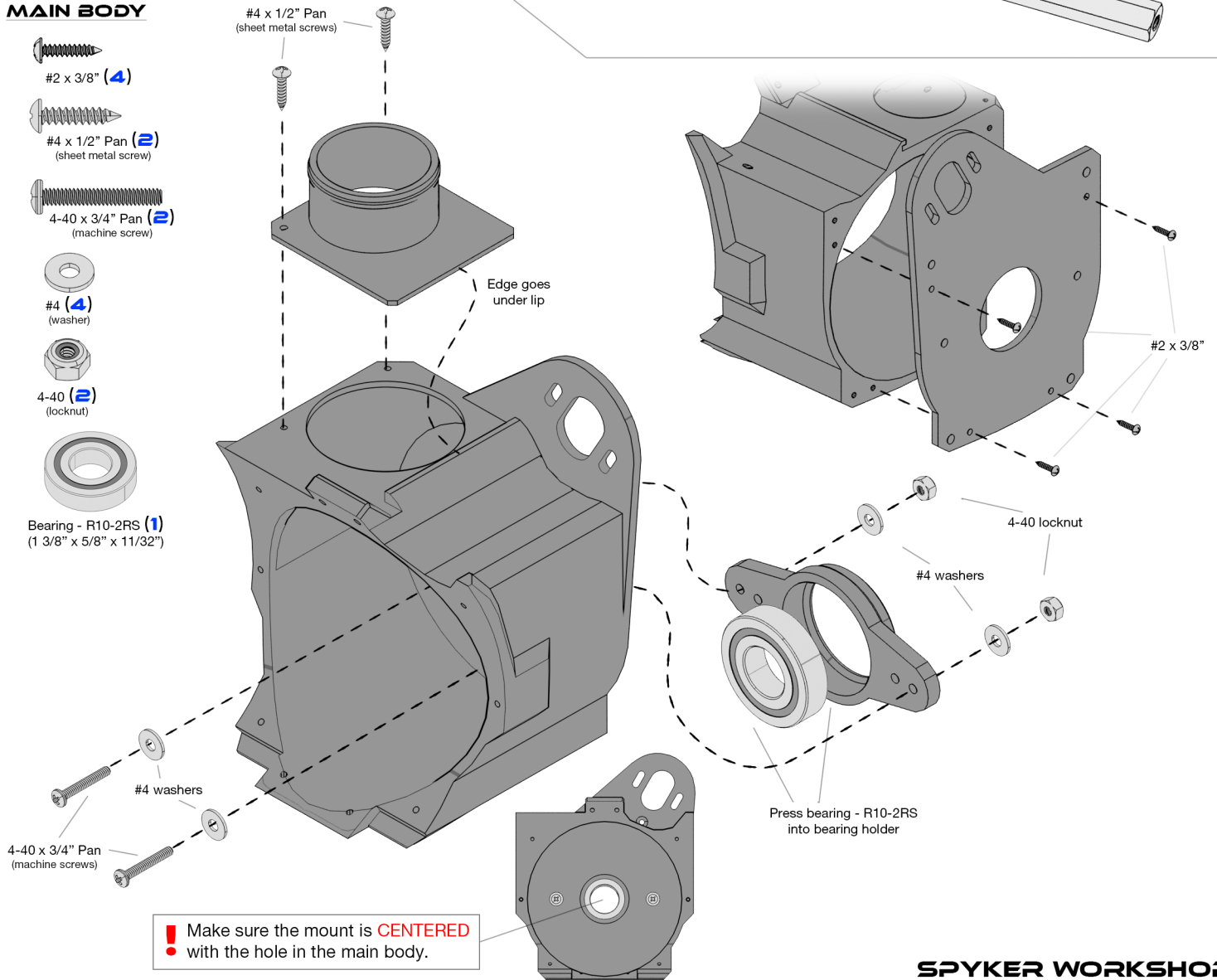
Start by drilling out all printed parts using the **DRILL GUIDE** on the back.

SNOW BLOWER KIT



STEP 2

MAIN BODY



STEP 3

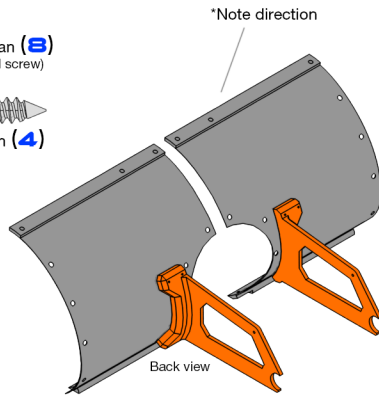
PANELS & BRACKETS

SNOW BLOWER KIT

#6 x 1/2" Pan (8)
(sheet metal screw)

#6 x 3/4" Pan (4)

#6 (8)
(washer)



Smooth side faces inwards

#6 x 1/2" Pan (sheet metal screws)

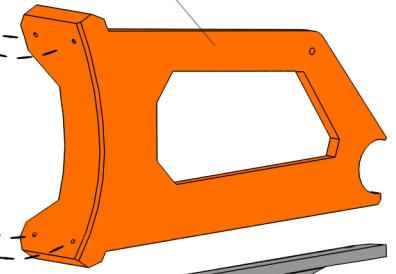
#6 washers

B

Connect arms to panels

*Note direction

RIGHT SIDE



Connect arms to mounts

LEFT SIDE

#6 x 3/4" Pan

#6 x 1/2" Pan (sheet metal screws)

#6 washers

! Notch faces down

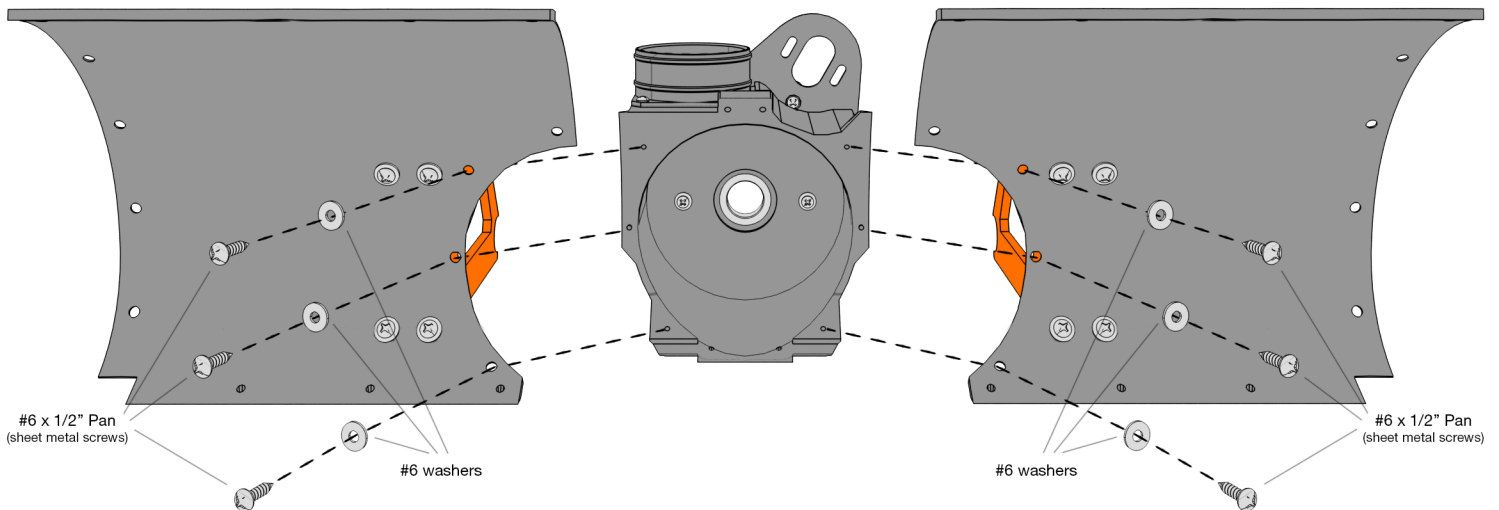
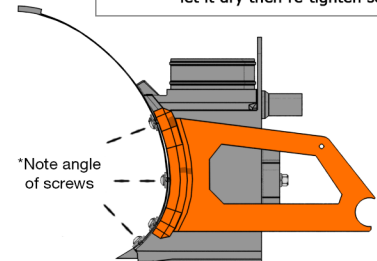
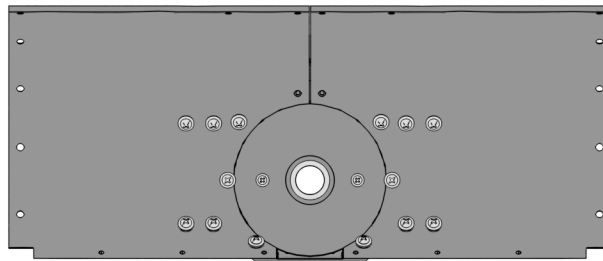
! Careful not to over tighten screws!
(If a hole strips out apply thick super glue let it dry then re-tighten screw)

STEP 4

MAIN BODY & PANELS

#6 x 1/2" Pan (6)
(sheet metal screw)

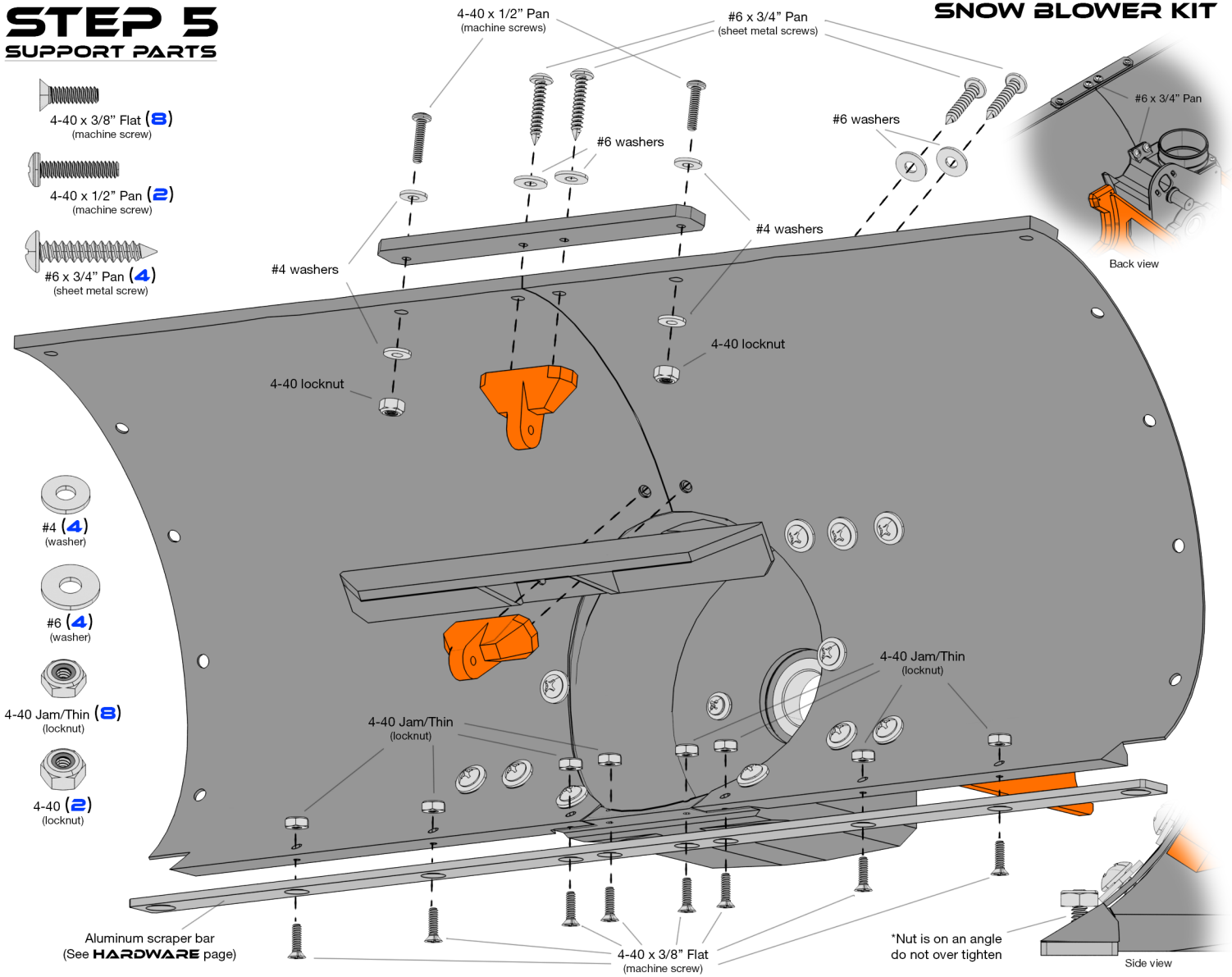
#6 (6)
(washer)



STEP 5

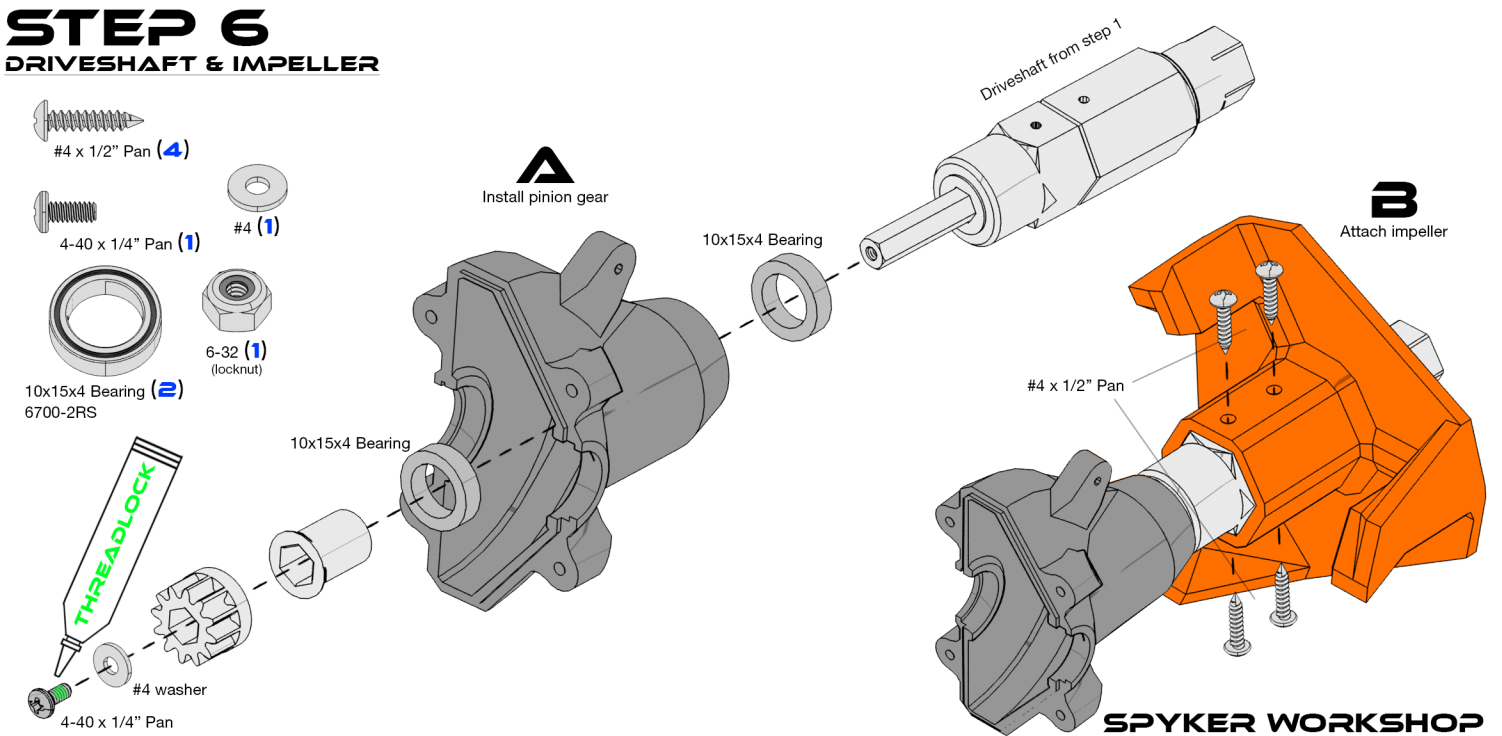
SUPPORT PARTS

SNOW BLOWER KIT



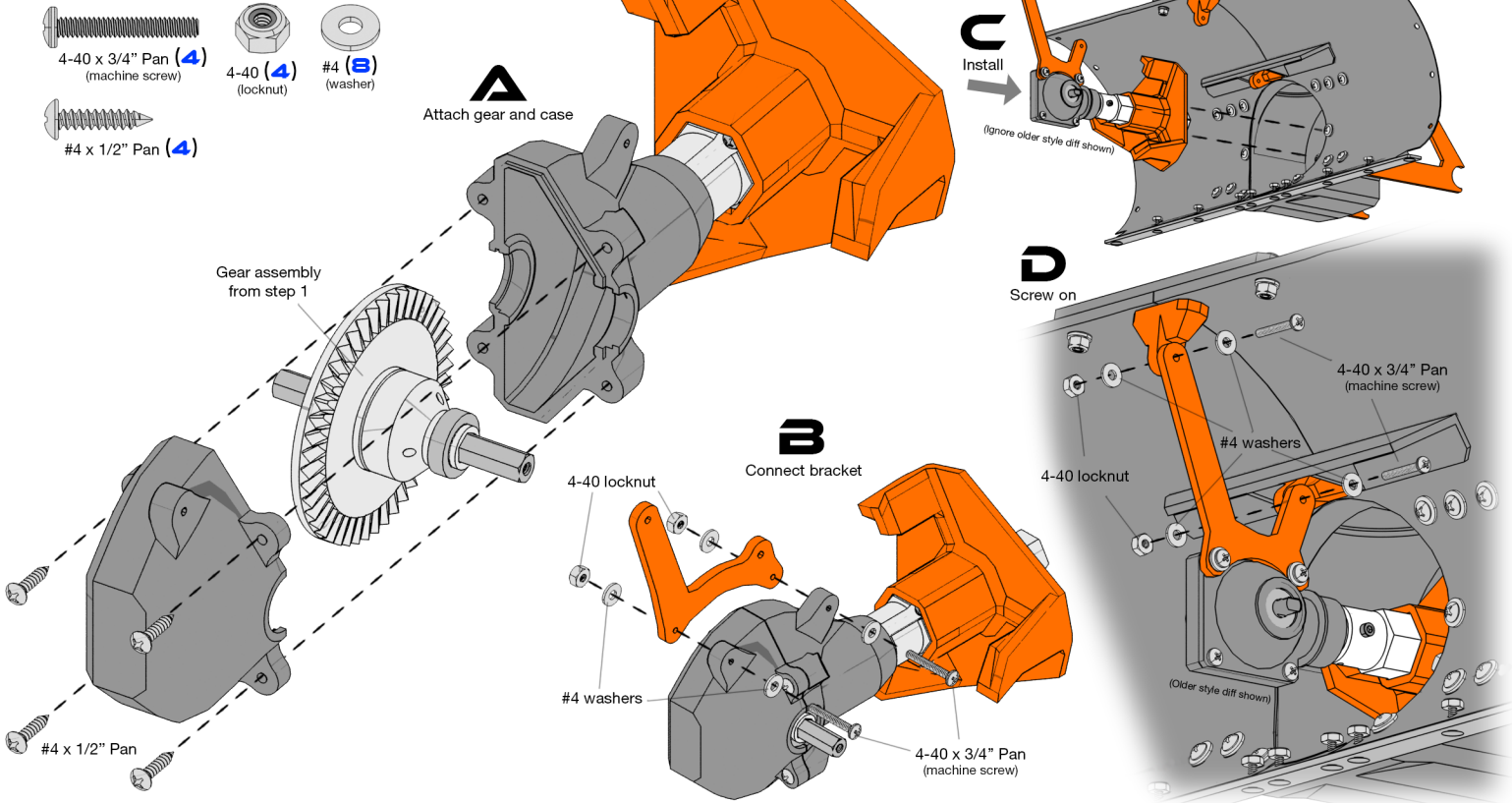
STEP 6

DRIVESHAFT & IMPELLER



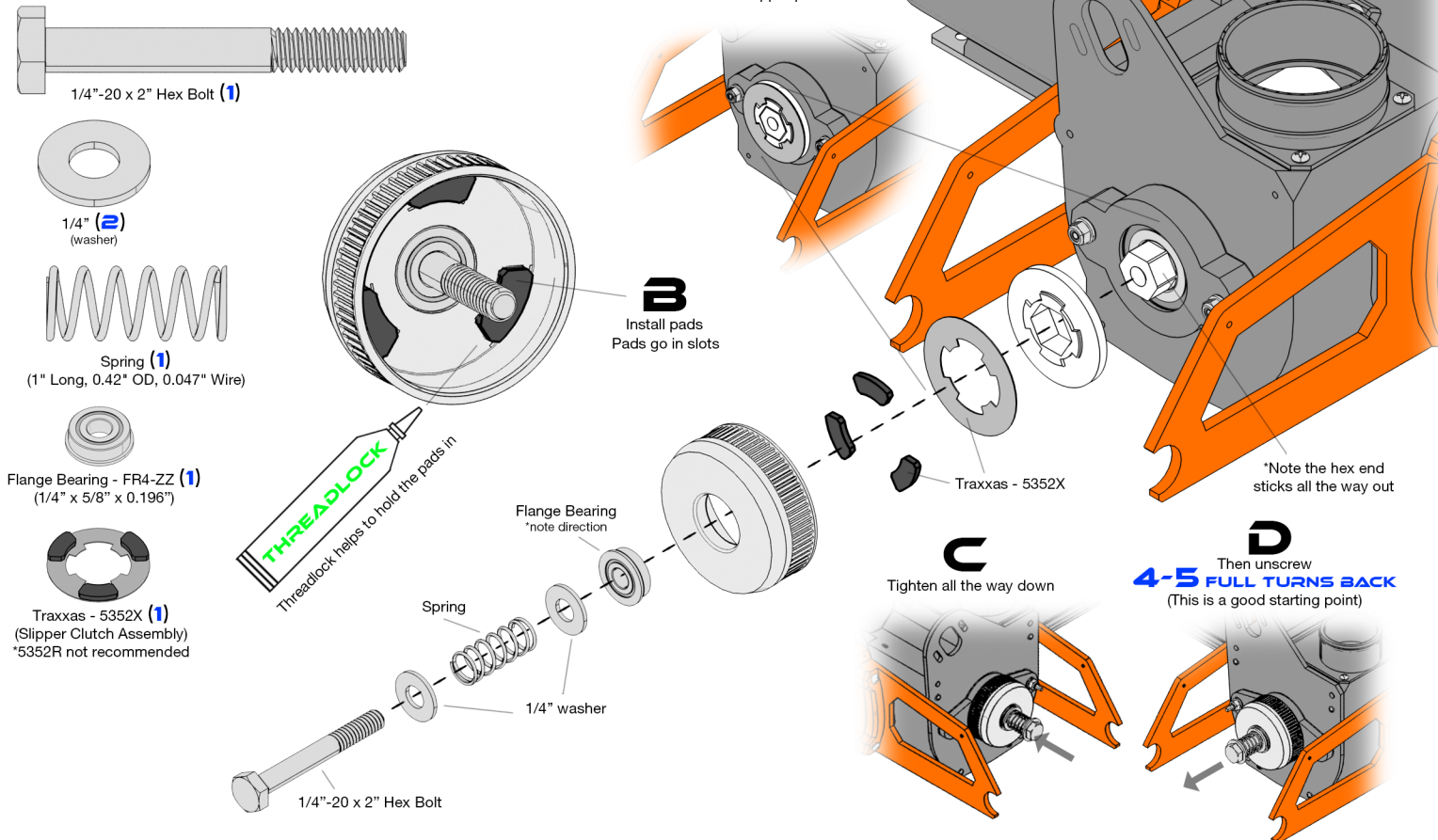
STEP 7

INSTALL DRIVESHAFT



STEP 8

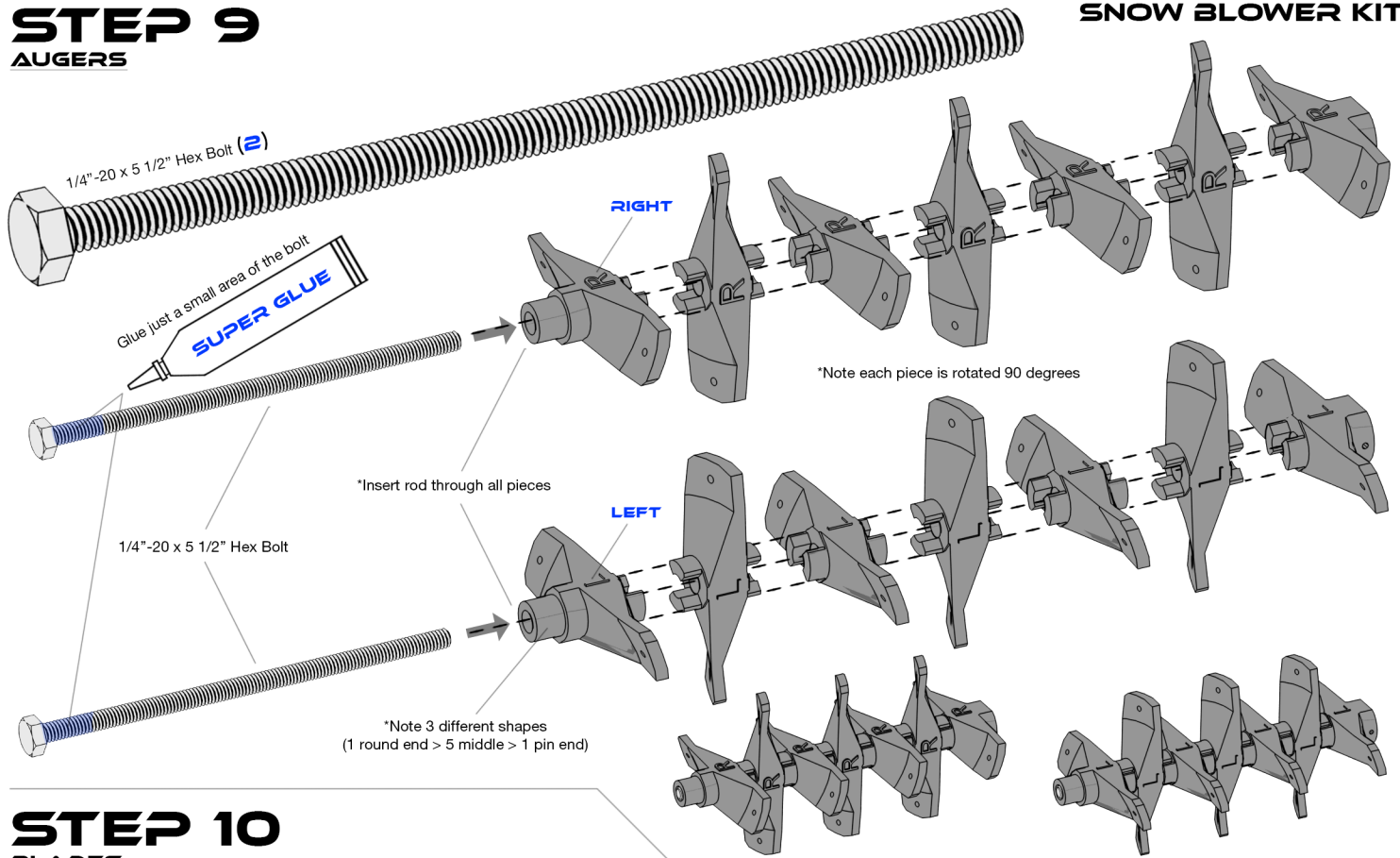
SLIPPER CLUTCH



STEP 9

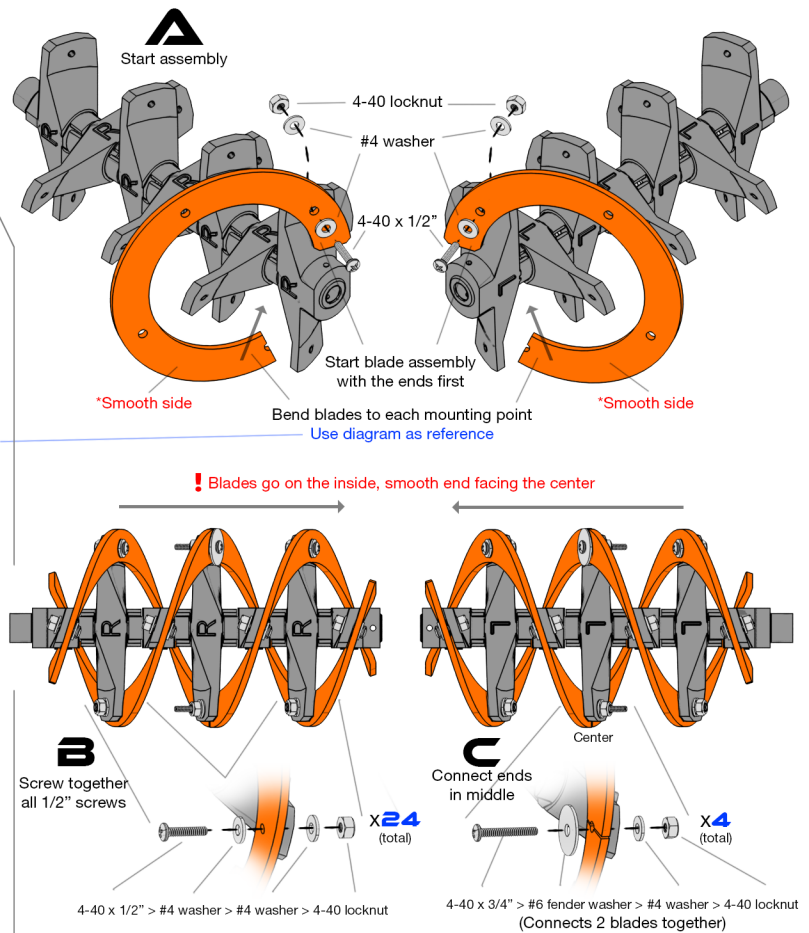
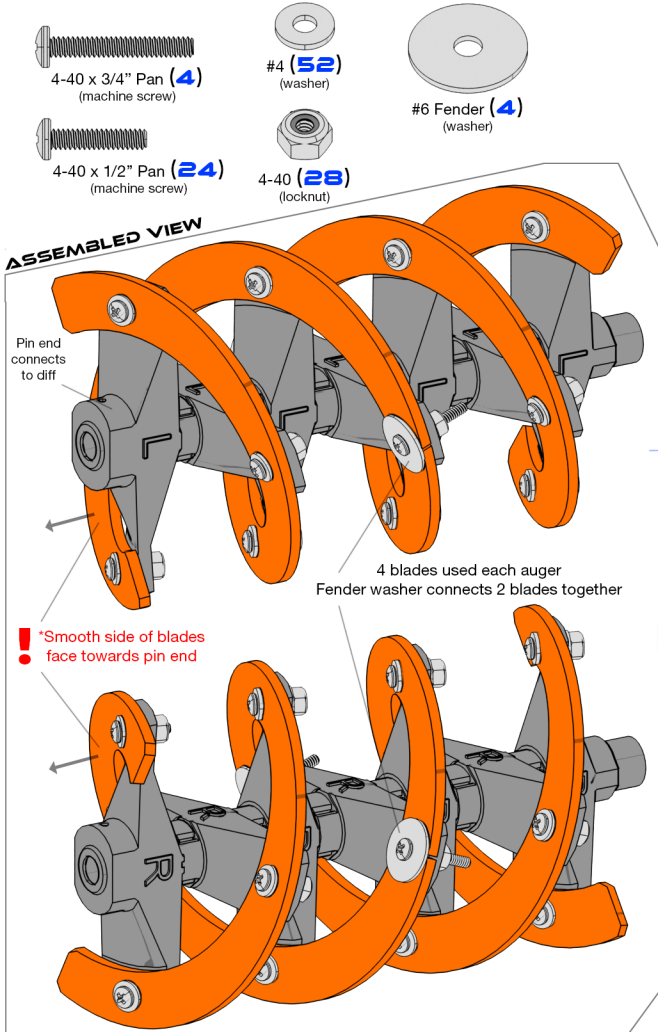
AUGERS

SNOW BLOWER KIT



STEP 10

BLADES



STEP 11

END PLATES + SKID SHOES

- 4-40 x 1/2" Pan (4) (machine screw)
- #4 (8) (washer)
- 4-40 (8) (locknut)

- 4-40 x 3/8" Flat (4) (machine screw)

- Bearing - R8-2RS (2) (1 1/8" x 1/2" x 5/16")

- 4-40 x 1/2" Pan (machine screw)
- #4 washer

B

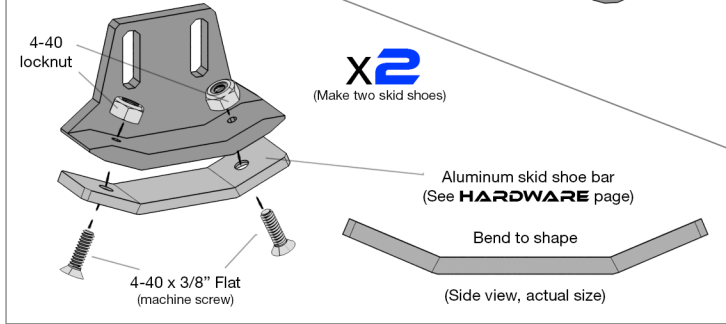
Install shoes

- Bearing - R8-2RS
- 4-40 locknut
- #4 washer
- 4-40 locknut
- #4 washer

- 4-40 x 1/2" Pan (machine screw)
- #4 washer

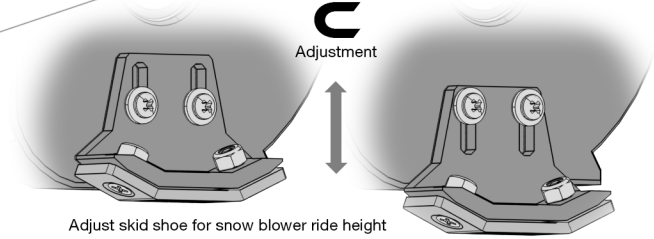
A

SKID SHOE



C

Adjustment



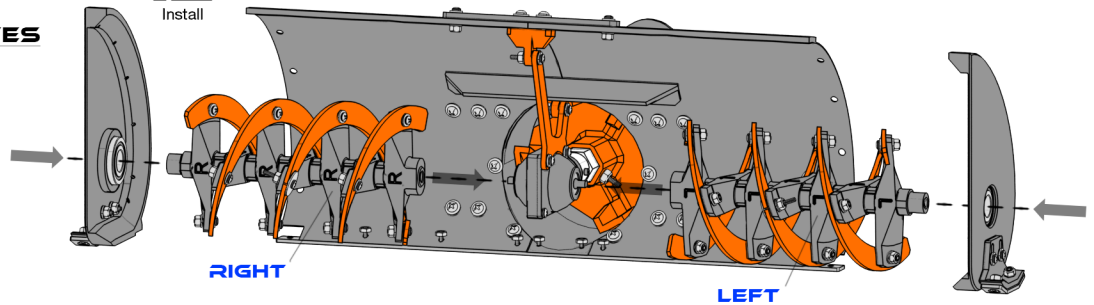
STEP 12

INSTALL AUGERS + END PLATES

- #6 x 1/2" Pan (8) (sheet metal screw)
- #6 x 5/8" Pan (2) (sheet metal screw)
- #6 x 5/8" Flat (2) (sheet metal screw)
- #6 (10) (washer)

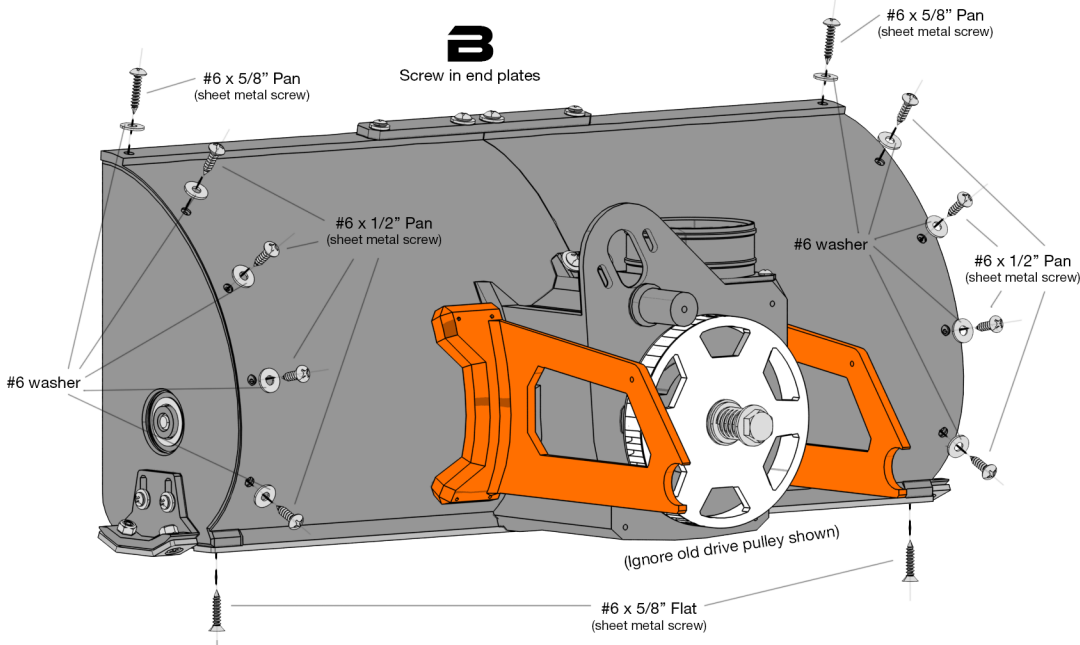
A

Install



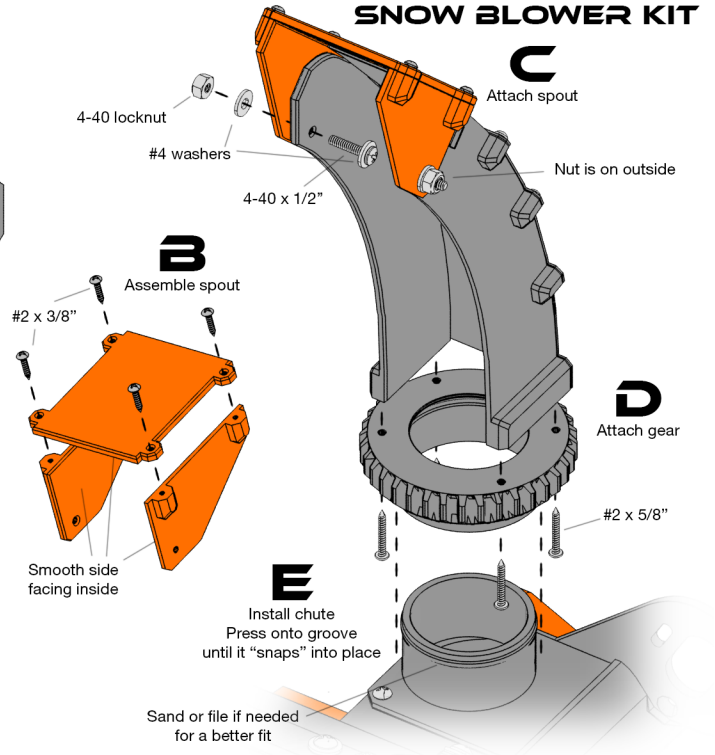
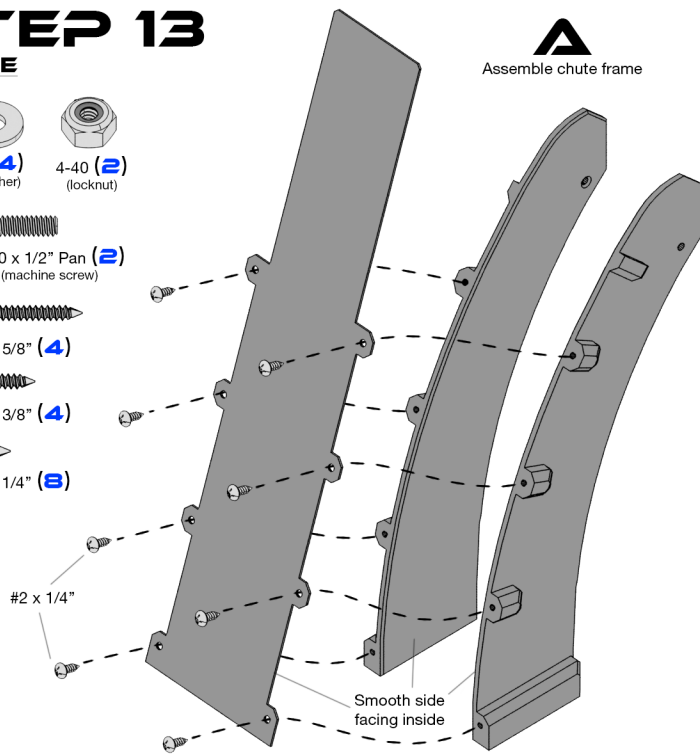
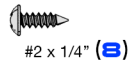
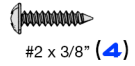
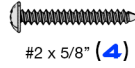
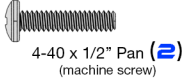
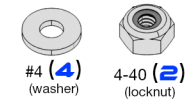
B

Screw in end plates



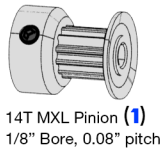
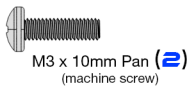
STEP 13

CHUTE



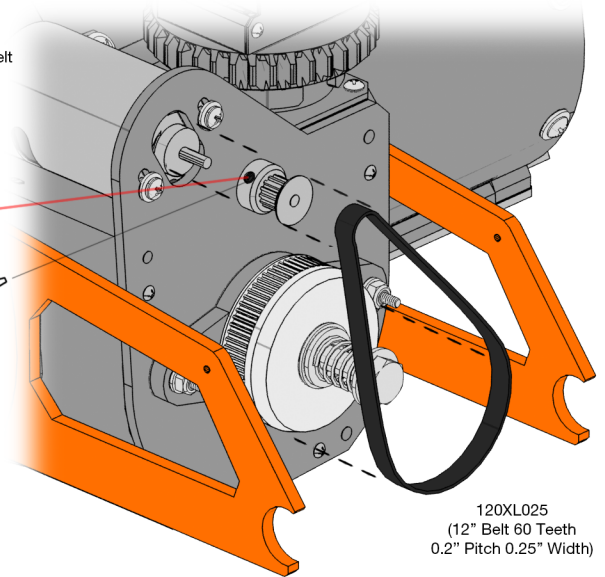
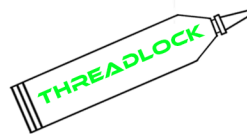
STEP 14

MOTOR



B
Install Belt

! Do not tighten screw too much let the threadlock do its job!



120XL025
(12" Belt 60 Teeth
0.2" Pitch 0.25" Width)

A
Attach motor

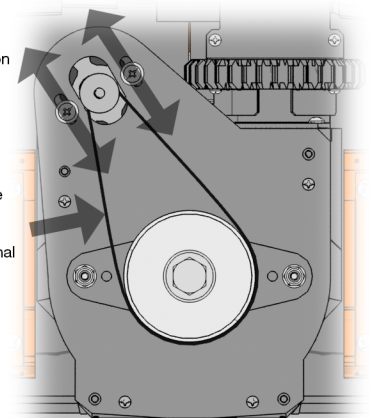
! Do not tighten screws too much

M3 x 10mm Pan
(machine screw)



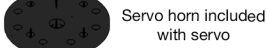
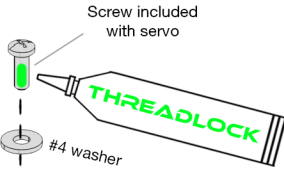
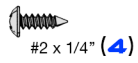
C
Adjust tension

Belt should have some play in it.
May need additional adjusting.

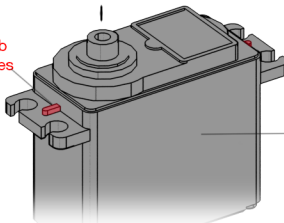


STEP 15

CHUTE SERVO



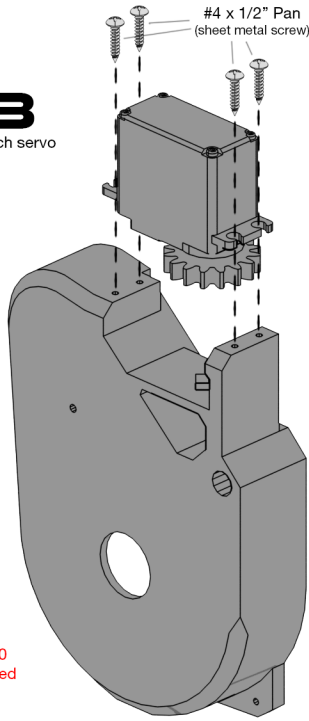
Remove nub on both sides



Servo modified for 360 degree rotation required

B

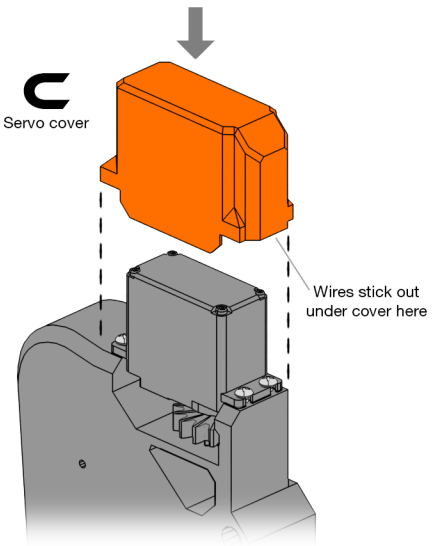
Attach servo



SNOW BLOWER KIT

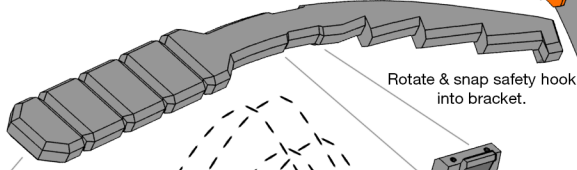
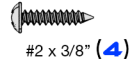
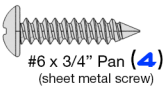
C

Servo cover

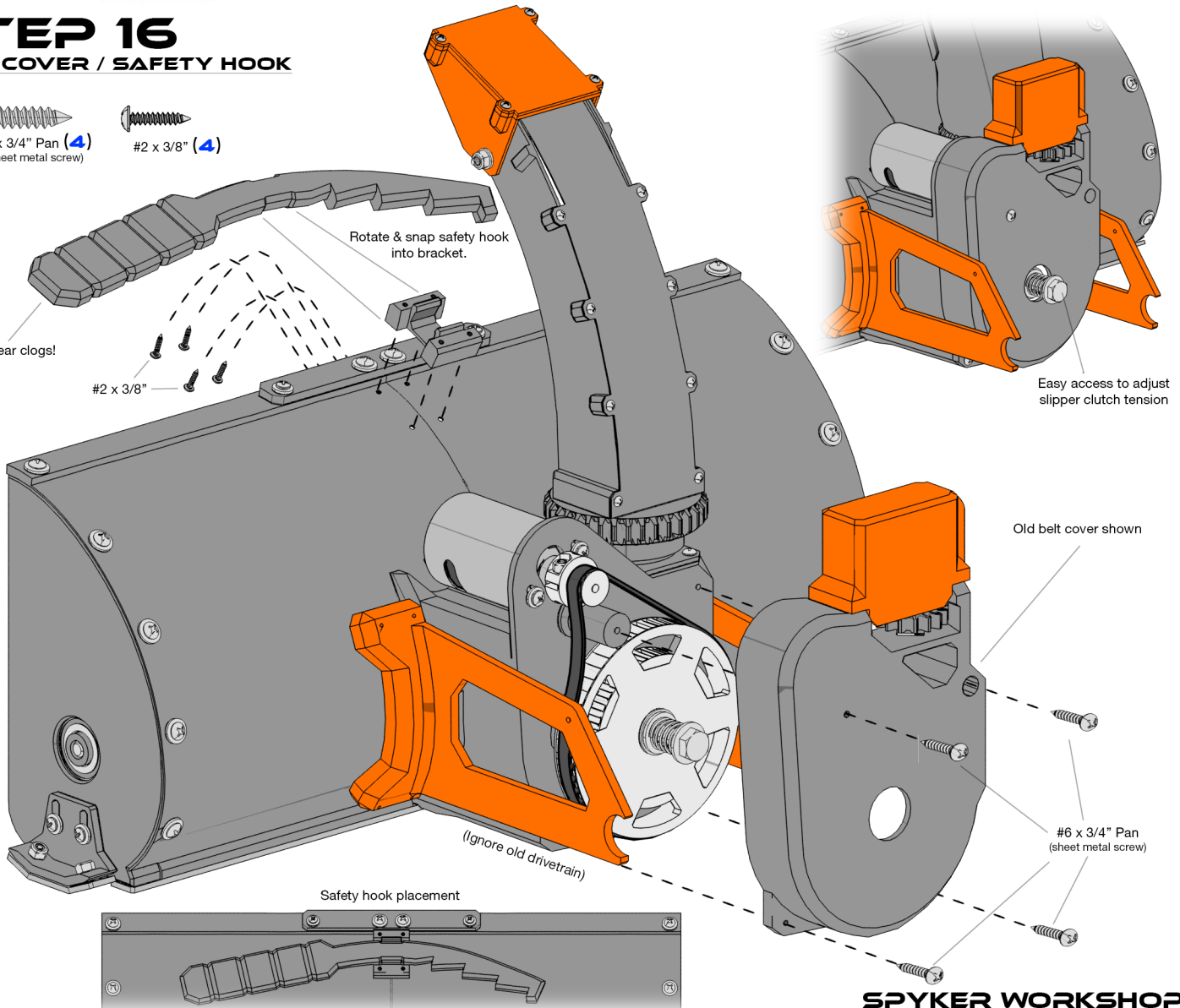
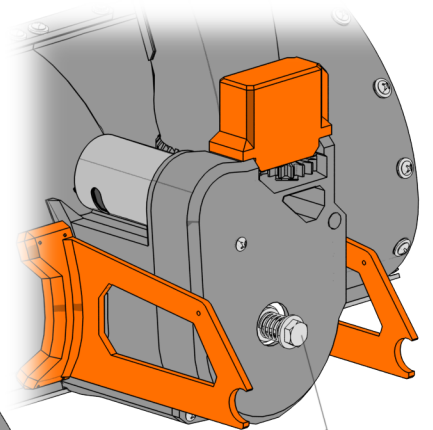
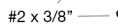


STEP 16

BELT COVER / SAFETY HOOK

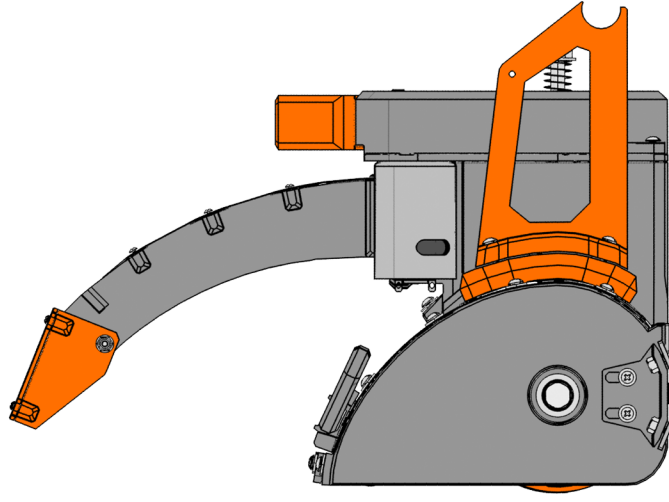
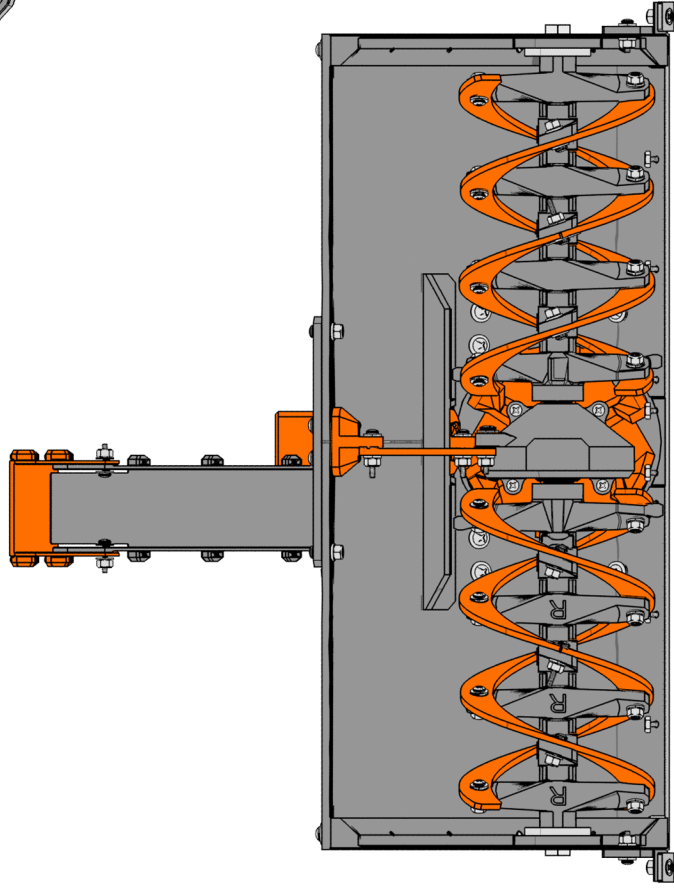
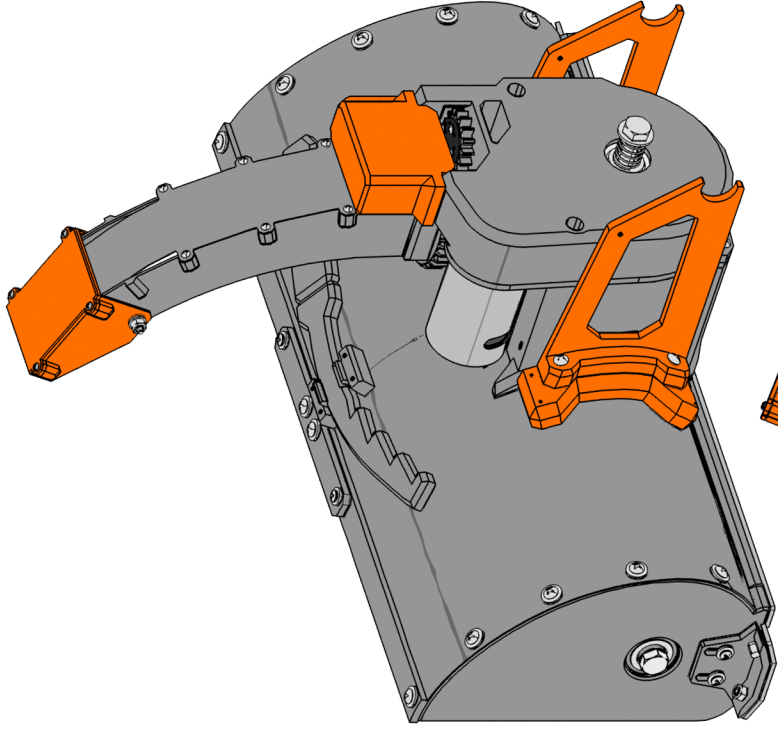
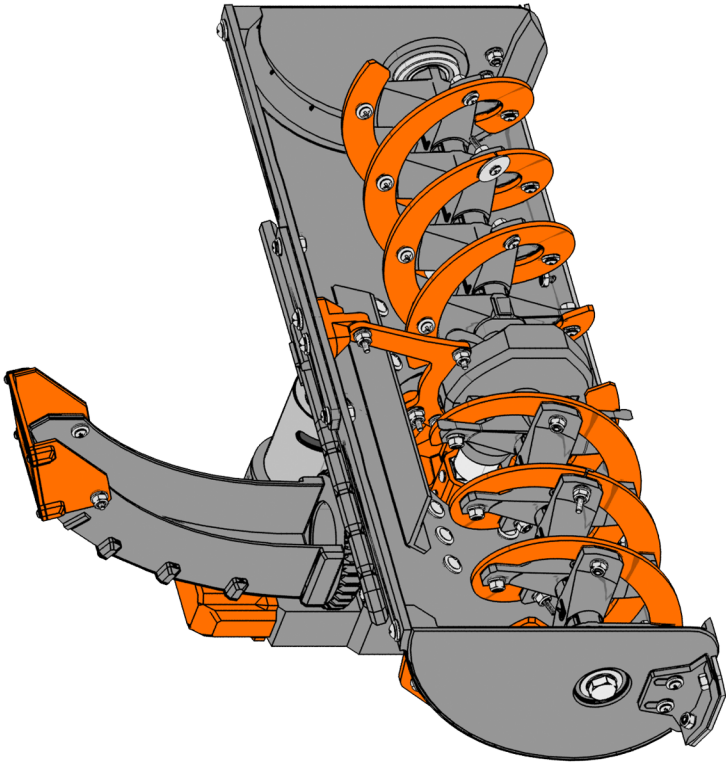


Use to clear clogs!



ASSEMBLY COMPLETED!

SNOW BLOWER KIT

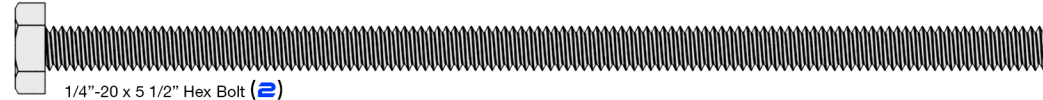


HARDWARE

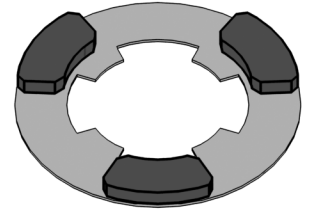
SNOW BLOWER KIT

This list contains all the hardware needed to build your snow blower. You can order hardware kits at: www.spykerworkshop.webs.com/order

Scale 1:1



1/4"-20 x 5 1/2" Hex Bolt (2)



Traxxas - 5352X (1)
(Slipper Clutch Assembly)
*5352R not recommended

MACHINE SCREWS

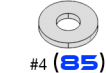
WASHERS

LOCKNUTS

SHEET METAL SCREWS



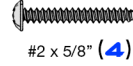
M3 x 10mm Pan (2)



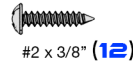
#4 (85)



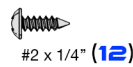
4-40 (46)



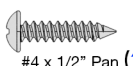
#2 x 5/8" (4)



#2 x 3/8" (12)



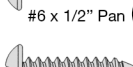
#2 x 1/4" (12)



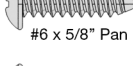
#4 x 1/2" Pan (14)



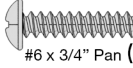
#6 x 1/2" Pan (22)



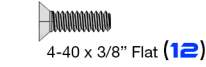
#6 x 5/8" Pan (2)



#6 x 3/4" Pan (12)



#6 x 5/8" Flat (2)



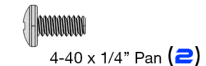
4-40 x 3/8" Flat (12)



#6 (28)



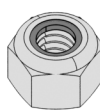
4-40 Jam/Thin (8)



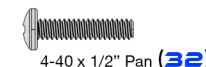
4-40 x 1/4" Pan (2)



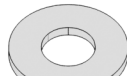
#6 Fender (4)



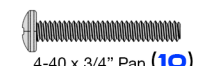
1/4"-20 (1)



4-40 x 1/2" Pan (32)



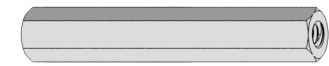
1/4" (2)



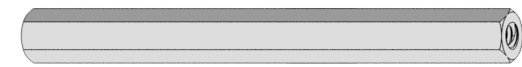
4-40 x 3/4" Pan (10)



1/4"-20 x 2" Hex Bolt (1)



1/4" Hex Threaded Standoff 1 1/2" 4-40 (1)



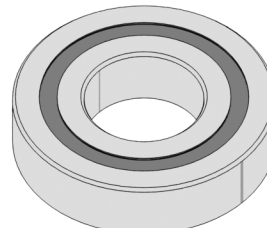
1/4" Hex Threaded Standoff 2 1/2" 4-40 (1)



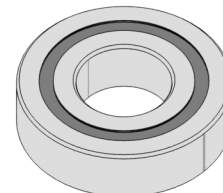
10x15x4 Bearing (4)
6700-2RS



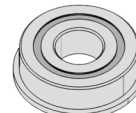
Spring (1)
(1" Long, 0.42" OD, 0.047" Wire)



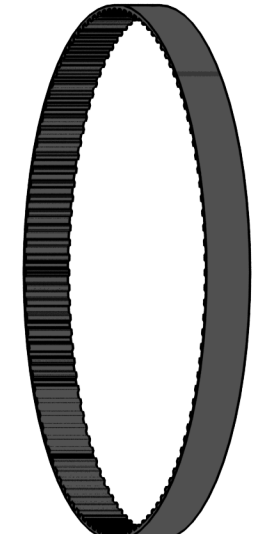
Bearing - R10-2RS (1)
(1 3/8" x 5/8" x 11/32")



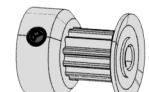
Bearing - R8-2RS (2)
(1 1/8" x 1/2" x 5/16")



Flange Bearing - FR4-ZZ / FR4-2Z (1)
(1/4" x 5/8" x 0.196")



110MXL025 Belt (1)
110 teeth, 0.08" pitch

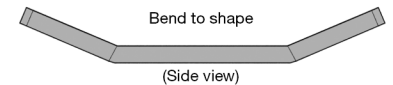
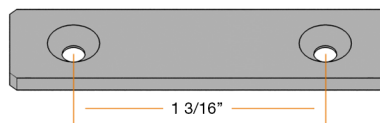


14T MXL Pinion (1)
1/8" Bore, 0.08" pitch

Aluminum Bar - 1/2" x 3/32" x 13.5" (1)

Use this guide to make replacement scraper bars.
Counter-sink all holes for 4-40 flat head screw. (Unless noted)

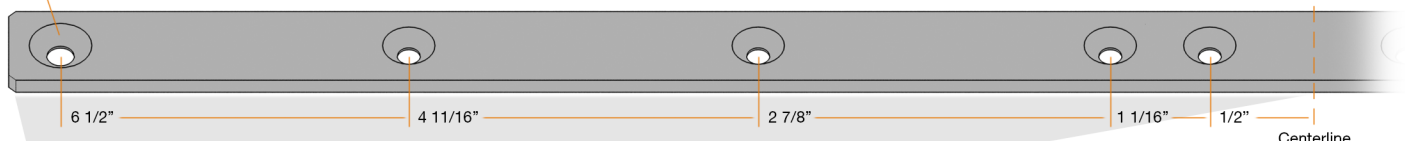
Aluminum Bar - 1/2" x 3/32" x 2" (2)



Bend to shape

(Side view)

Counter-sink ends #6 flat head



All measurements are from the centerline.

Centerline

(Not to scale)

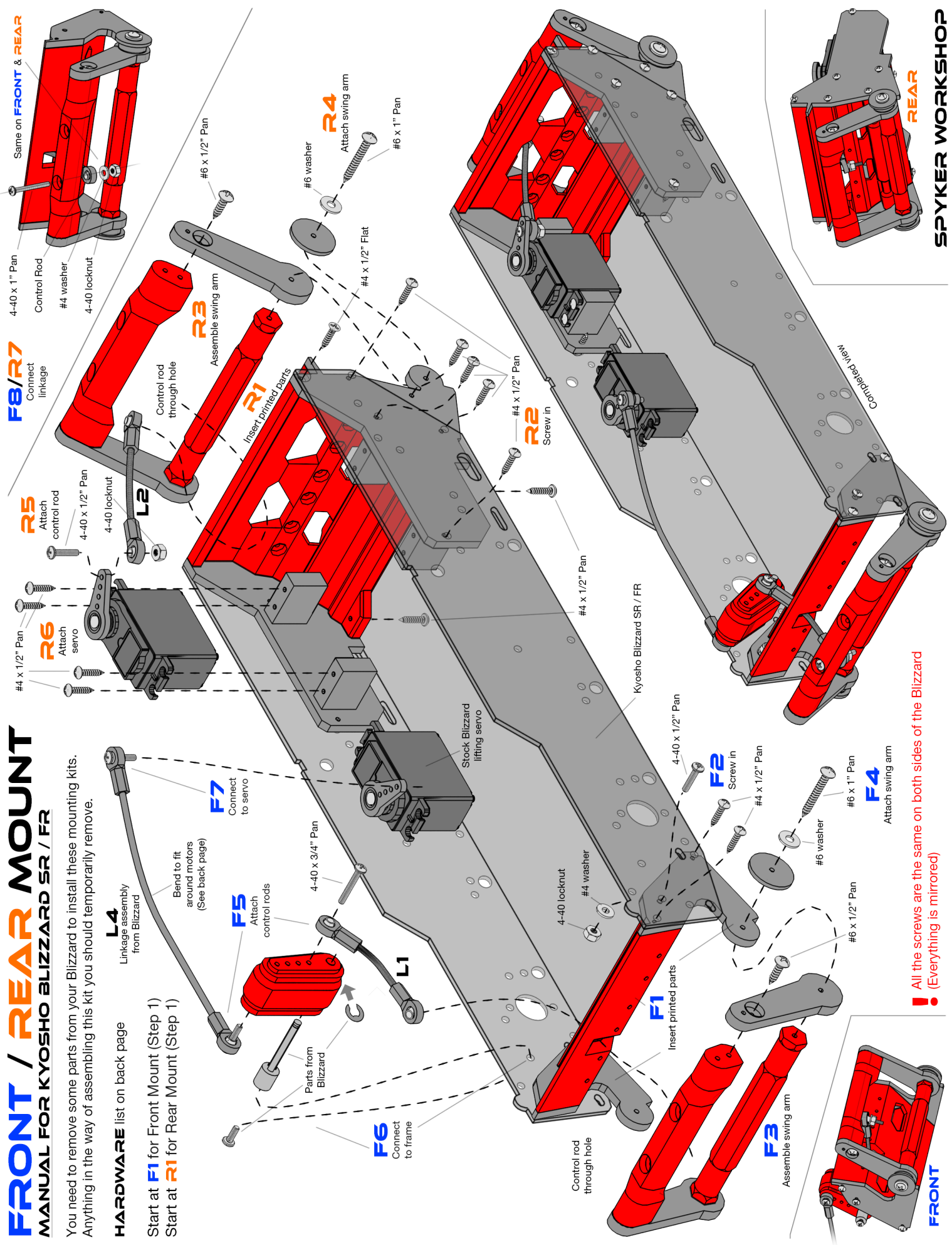
FRONT / REAR MOUNT

MANUAL FOR KYOSHO BLIZZARD SR / FR

You need to remove some parts from your Blizzard to install these mounting kits. Anything in the way of assembling this kit you should temporarily remove.

HARDWARE list on back page

Start at **F1** for Front Mount (Step 1)
 Start at **R1** for Rear Mount (Step 1)

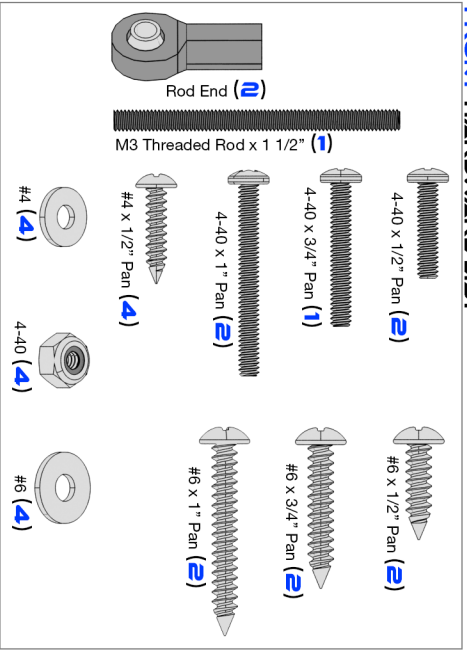


! All the screws are the same on both sides of the Blizzard (Everything is mirrored)

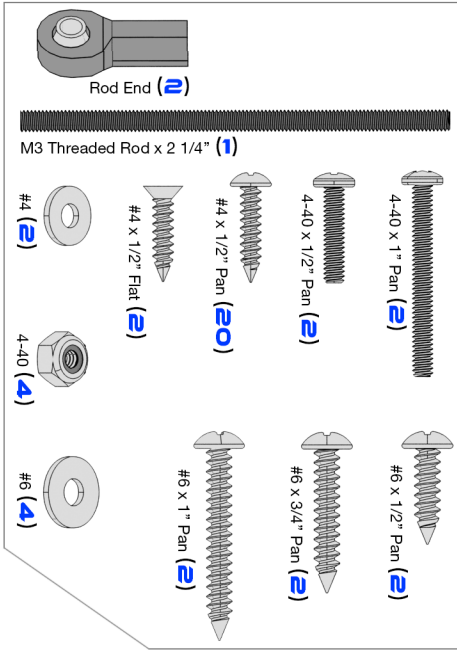
FRONT / REAR MOUNT

MANUAL FOR KYOSHO BLIZZARD SR / FR

FRONT HARDWARE LIST

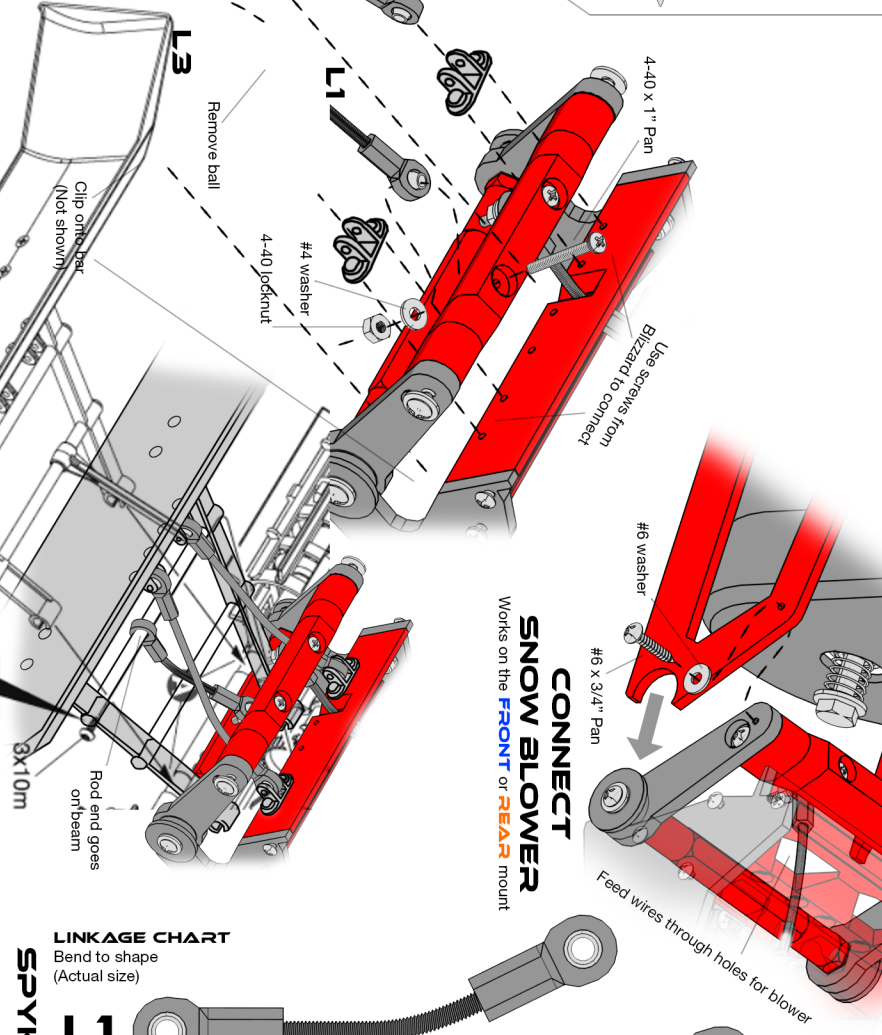
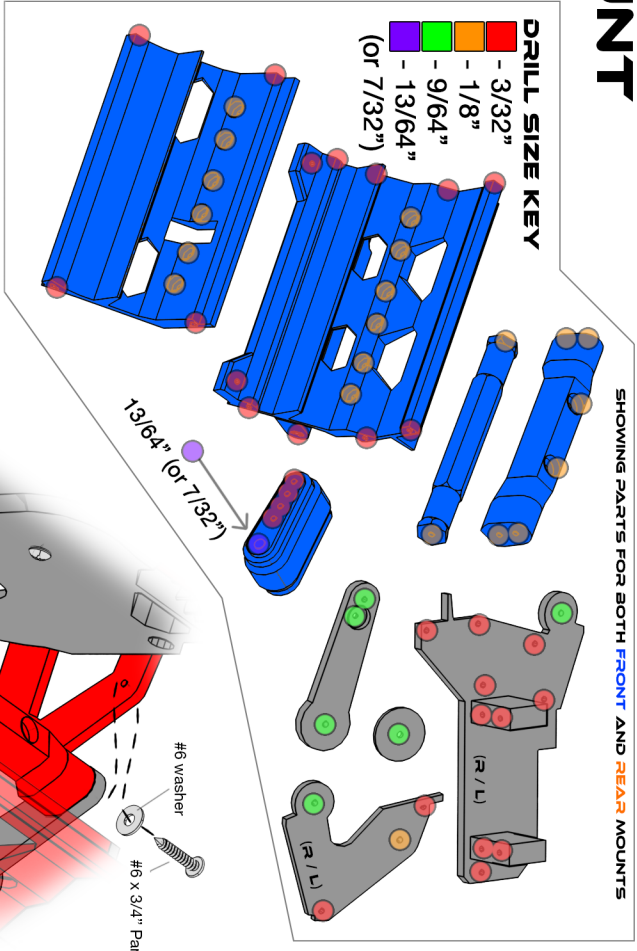
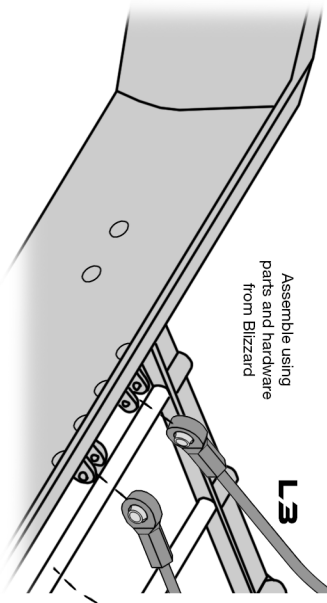


REAR HARDWARE LIST



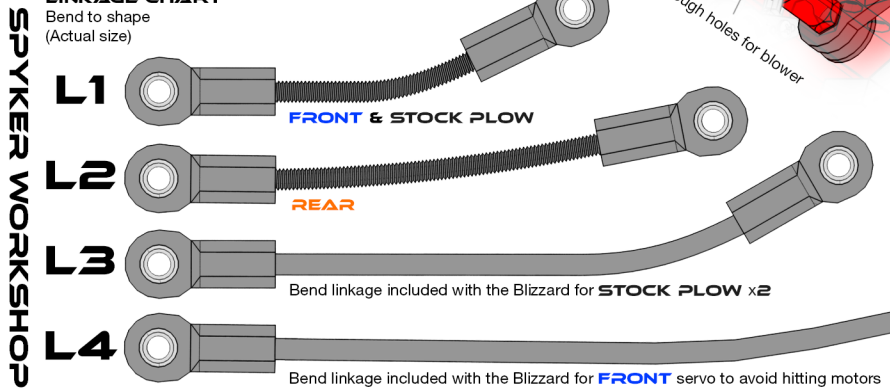
CONNECT BLIZZARD PLOW

You can attach the plow on either the **FRONT** or **REAR** mount



LINKAGE CHART

Bend to shape (Actual size)



PARTS + DRILL GUIDE v3.0

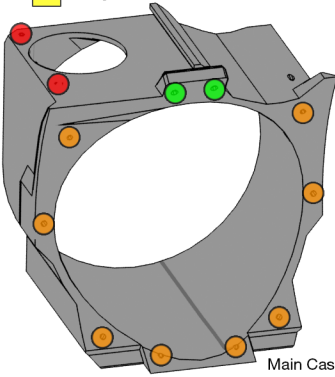
SNOW BLOWER KIT

DRILL SIZE KEY

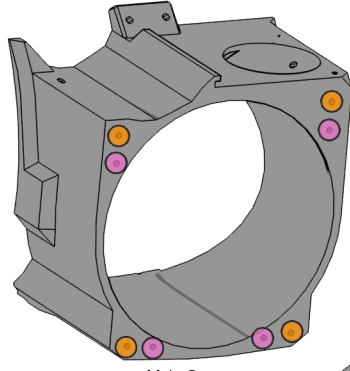
- 5/64" (Or smaller)
- 3/32"
- 1/8"
- 9/64"
- 5/32"
- 1/4"

Hardware kits sold at:
spykerworkshop.webs.com/order

Drill with the sizes shown to avoid splitting or stripping out threads.



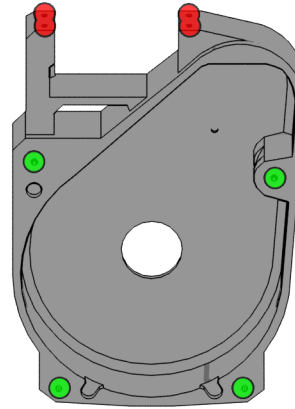
Main Case (Front View)



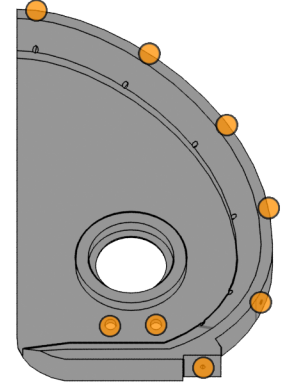
Main Case (Back View)



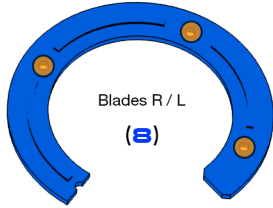
Bearing Holder



Belt Cover

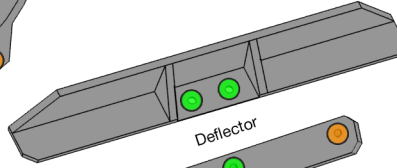


Side Plates R / L



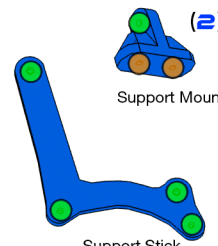
Blades R / L

(8)



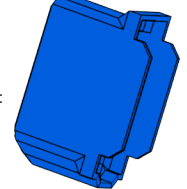
Deflector

Support Bar



Support Mount

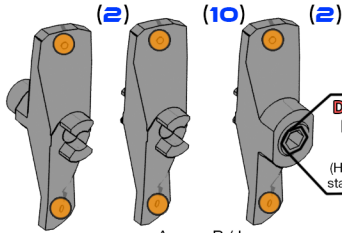
Support Stick



Servo Cover



Skid Shoe (2)



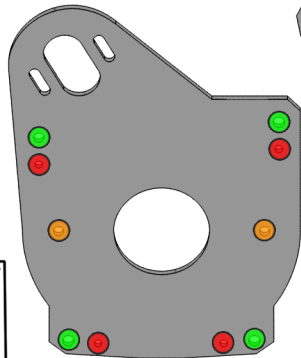
Augers R / L

(2)

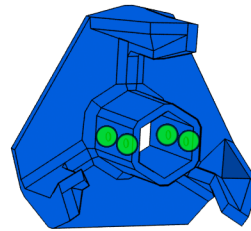
(10)

(2)

DO NOT DRILL HOLE
(Hex must stay intact)



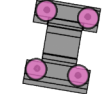
Motor Mount Plate



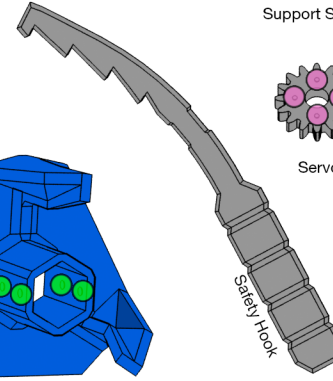
Impeller



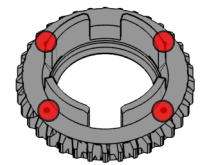
Servo Gear



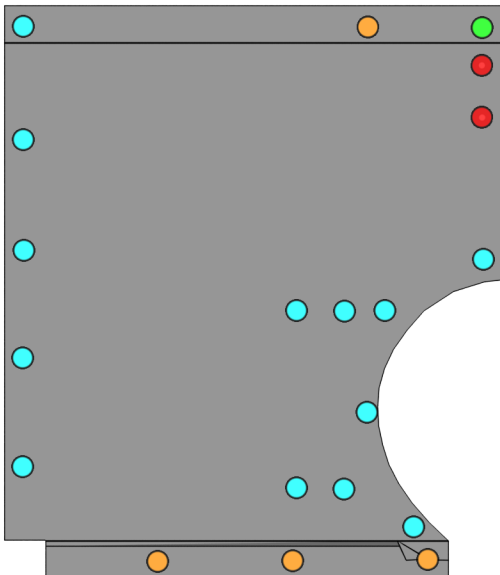
Hook Mount



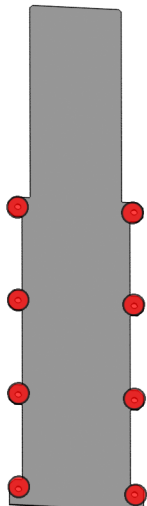
Safety Hook



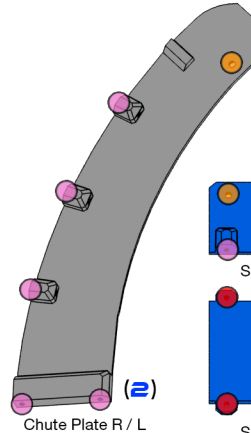
Chute Gear



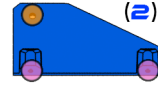
Cover Plate Left & Right
(Holes only visible on back of part)



Chute Middle Plate



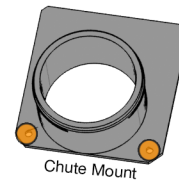
Chute Plate R / L



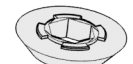
Spout R / L



Spout Middle



Chute Mount



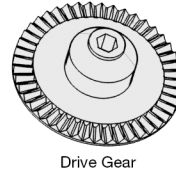
Wear Plate



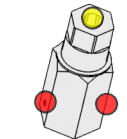
Pinion Gear



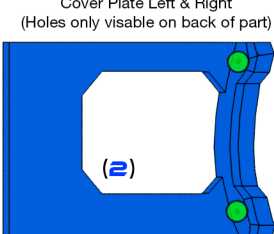
Driveshaft Upper



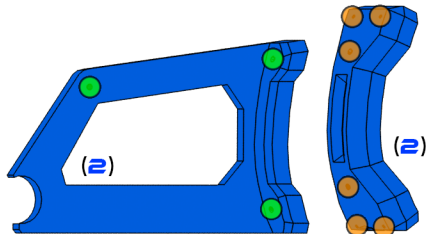
Drive Gear



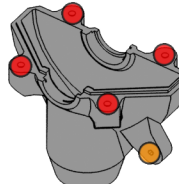
Driveshaft Lower



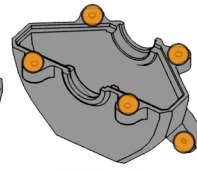
Custom Bracket L / R (Used to attach to other vehicles)
*Additional work required



Blizzard Bracket L / R (Used to attach to Kyosho Blizzard)
*Requires "Front" or "Rear Mount" (Sold separately)



Diff Case Back



Diff Case Front



Gear Hub
(only needed with CNC gear)



68T Pulley



Misc Drive Parts