# modulox

with: ⟨FlexHub⟩

This guide is an intro of the components that make up the modulox system. We hope that after reading this you will further understand the modulox system.
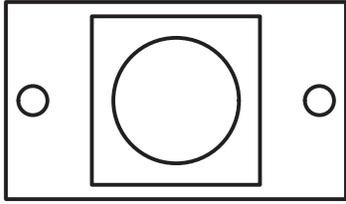
motor block
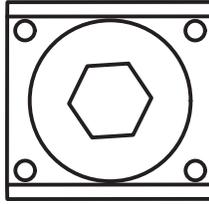
bearing block
(shown with bearing)
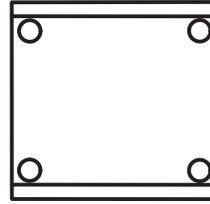
back block

through block

6-32 screw
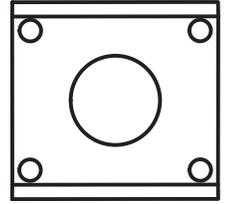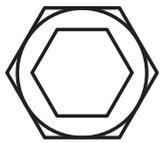
FlexHub
(bore varies)
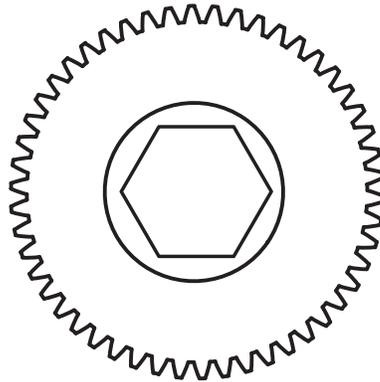
hex bore gear
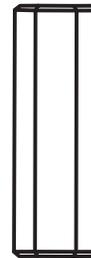
hex shaft
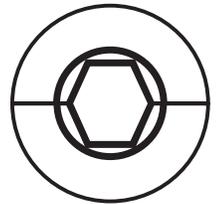
hex collar
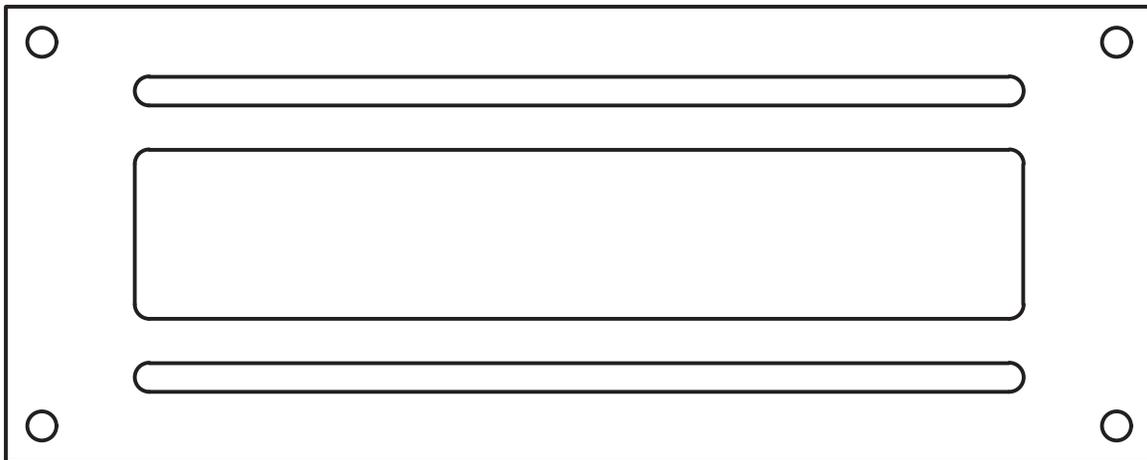
slot plate

Here are the basic components that make up the modulox system. There are a variety of machined aluminum blocks, these parts are precision machined to work with the modulox system. All modulox parts use standard hex shaft, therefore all the gears, hubs, and collars work with each other.

www.modulox.com

iR3 CREATIVE

modulox

with: ⟨FlexHub⟩

We'll begin by talking about the bearing blocks and the main support, the slot plate. The modulox system is really based around these components.

back block

6-32 screw

Back and through blocks are tapped, bearing blocks are drilled for clearance.

through block

bearing block
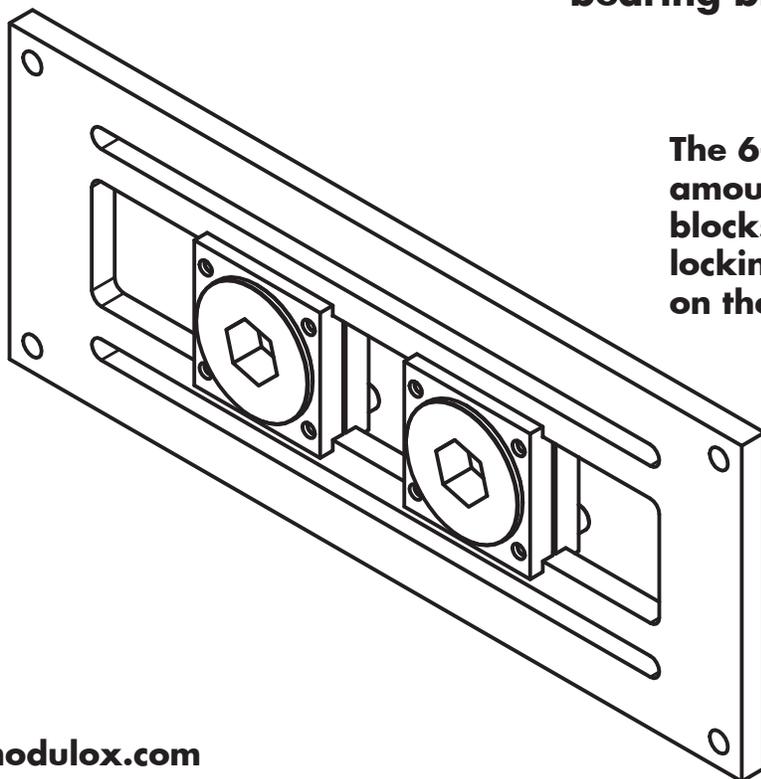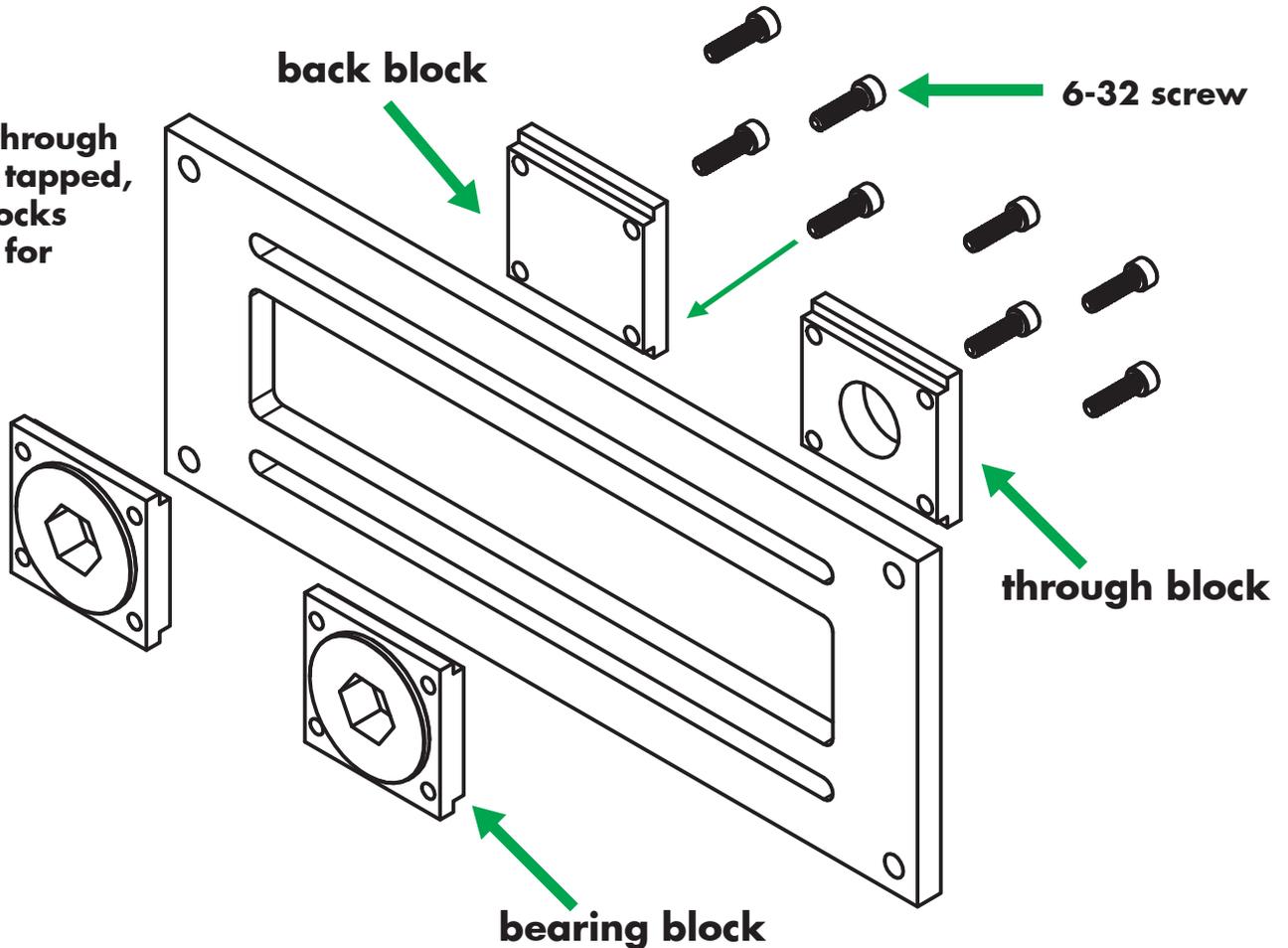
The 6-32 screws provide a huge amount of clamping force on the blocks by squeezing them, virtually locking the blocks into any position on the slot plate.

www.modulox.com

iR3
CREATIVE

modulox

with: ⟨**FlexHub**⟩

The through block allows a hex shaft to pass through the slot plate allowing for an external output shaft. Closed blocks keep the shaft captive within the gearbox.

← hex shaft

through block

back block
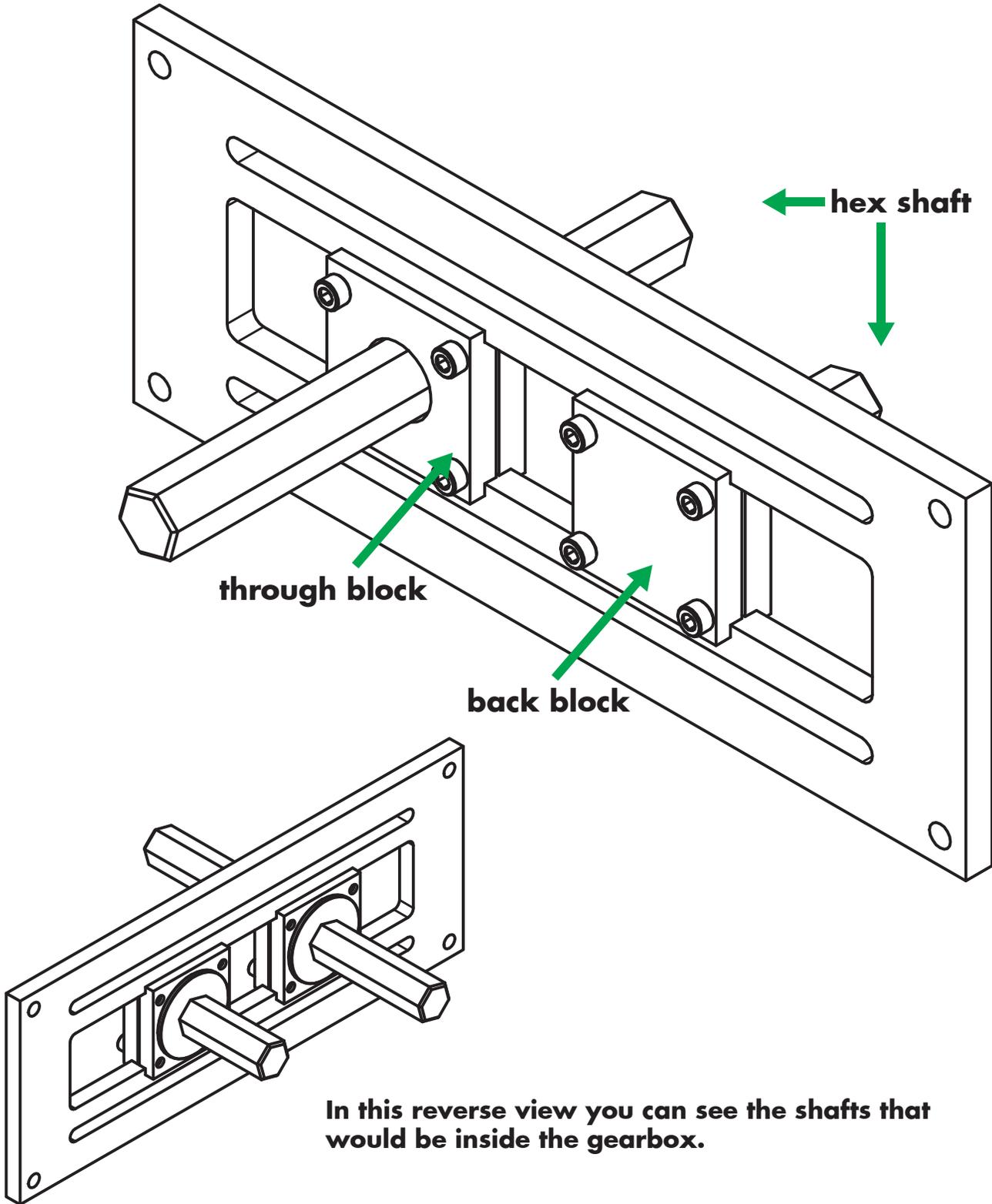
In this reverse view you can see the shafts that would be inside the gearbox.

iR3 CREATIVE

modulox
with: ⟨FlexHub⟩

To mount a CIM motor to a modulox gearbox requires use of a pair of motor blocks. This block clamps using the same principal of the bearing blocks while additionally capturing the motor.

motor block

CIM motor
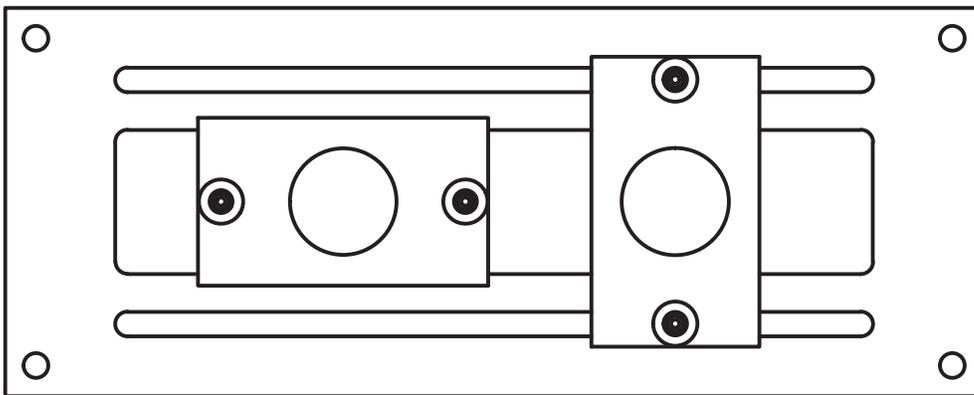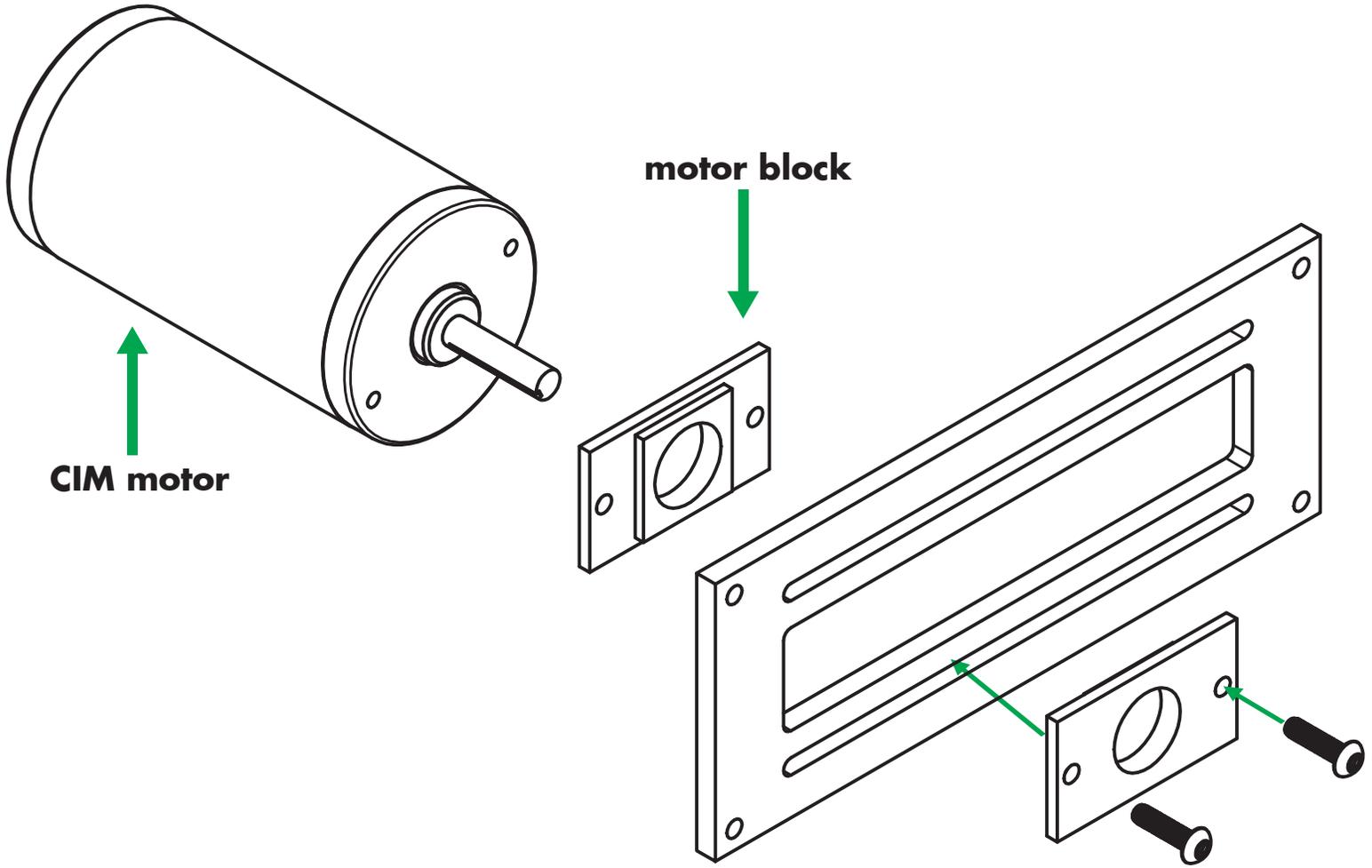
The motor block can be placed in two different orientations. The reason for the different orientations is this allows for a wider range of gears to correctly mesh with the motor output shaft.

www.modulox.com

iR3
CREATIVE

modulox
with: ⟨FlexHub⟩

With the modulox system users can quickly assemble gear clusters. The system use a standard width FlexHub gear assembly with the FlexHubs also being used as spacers. This standard width makes modifications simple. A standard kit is 3 flex hubs or 3 "units" wide.

gear

clip

FlexHub

clip
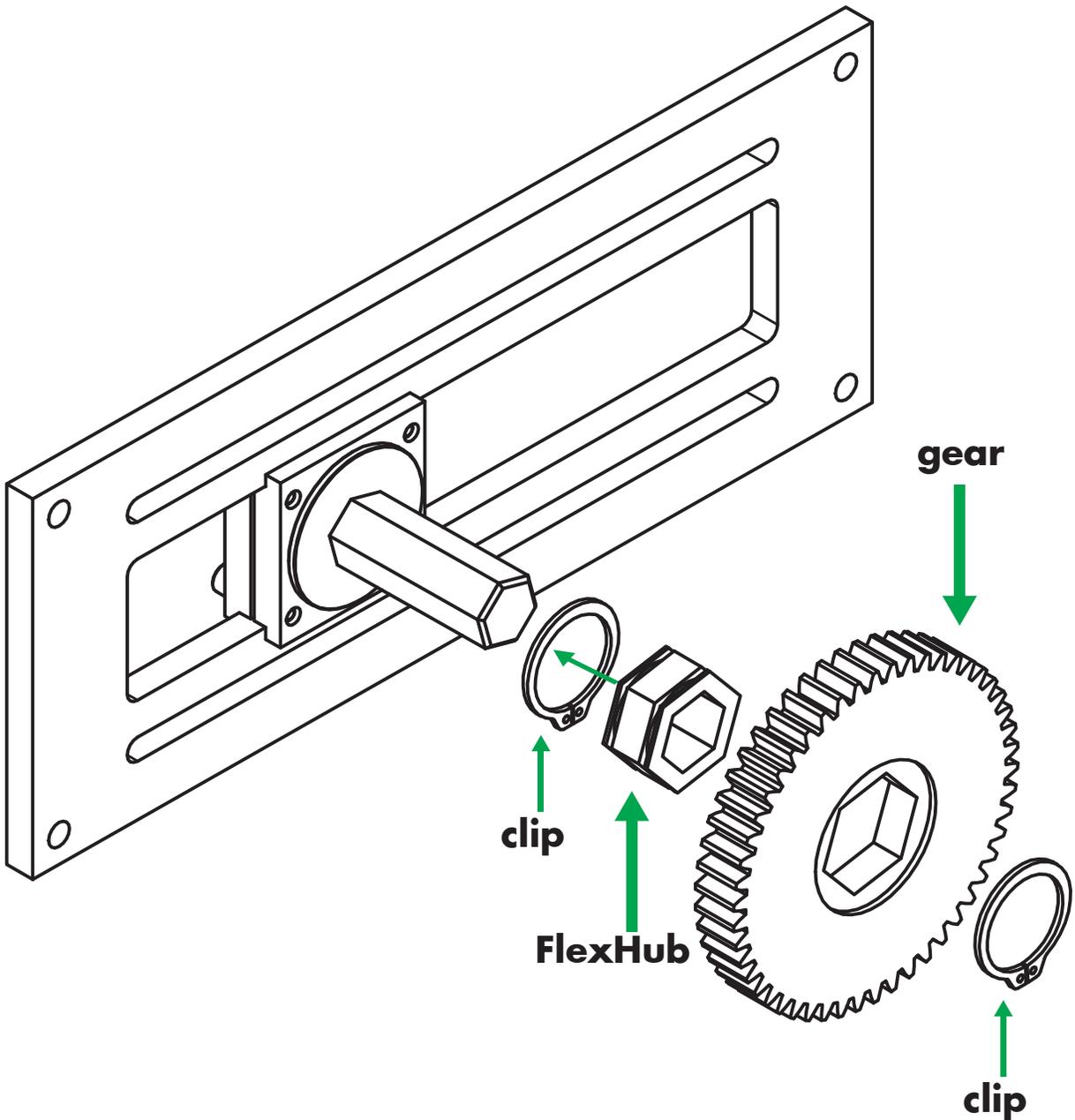
The flex hub gear assembly is designed such that it can be assembled against the inner race of the bearings on either side of gear without causing interference with the overall assembly.

iR3 CREATIVE

modulox

with: ⟨FlexHub⟩

To install a gearset users must first put a hex shaft into the bearing block. Then slide a gear on the shaft until it presses against the shoulder of the bearing.
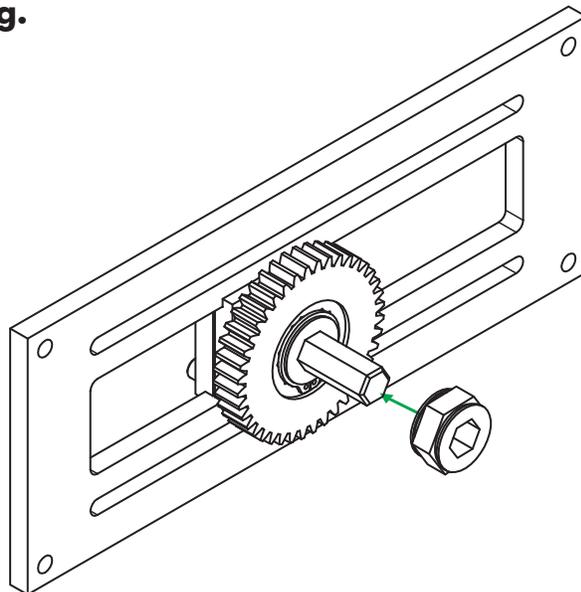
Next, slide a FlexHub as a spacer down the shaft. If using two back blocks slide a second Flexhub onto the shaft to ensure the gear assembly is kept in place. Gears can take the place of FlexHubs and spacers FlexHubs can take the place of gears. Shaft collars may also be used.
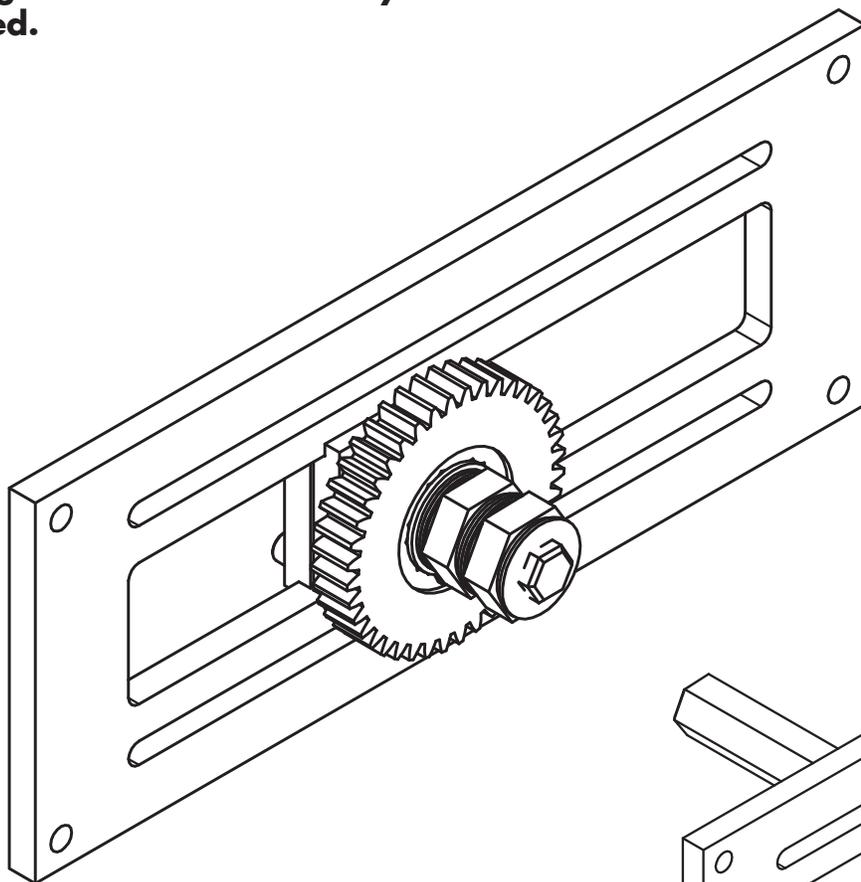
Hex collars can used instead of FlexHubs spanning the width of the shaft.
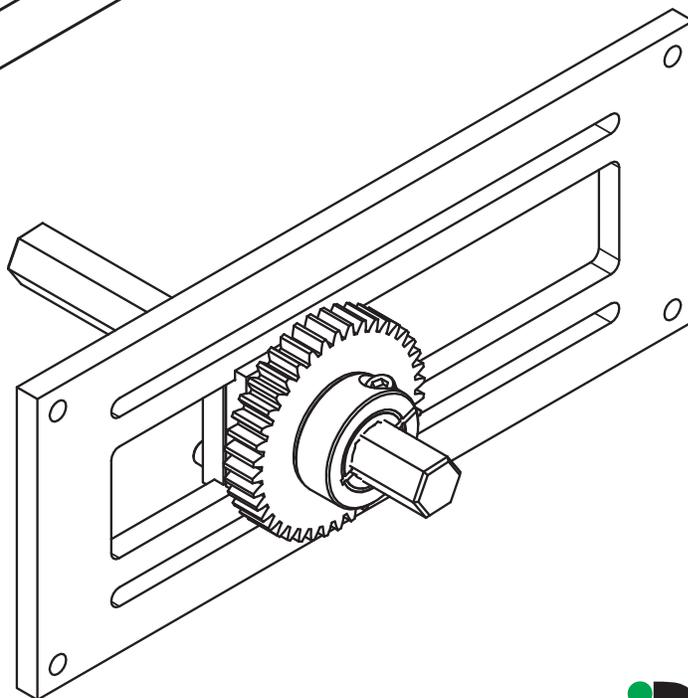
FlexHubs may not be used to substitute shaft collars in the case of using a through block as the shaft collar ensures the shaft does not slide out.

www.modulox.com

iR3
CREATIVE

modulox

**A fully assembled modulox gearbox can use as many gears as you can fit and the ratios are almost endless!**
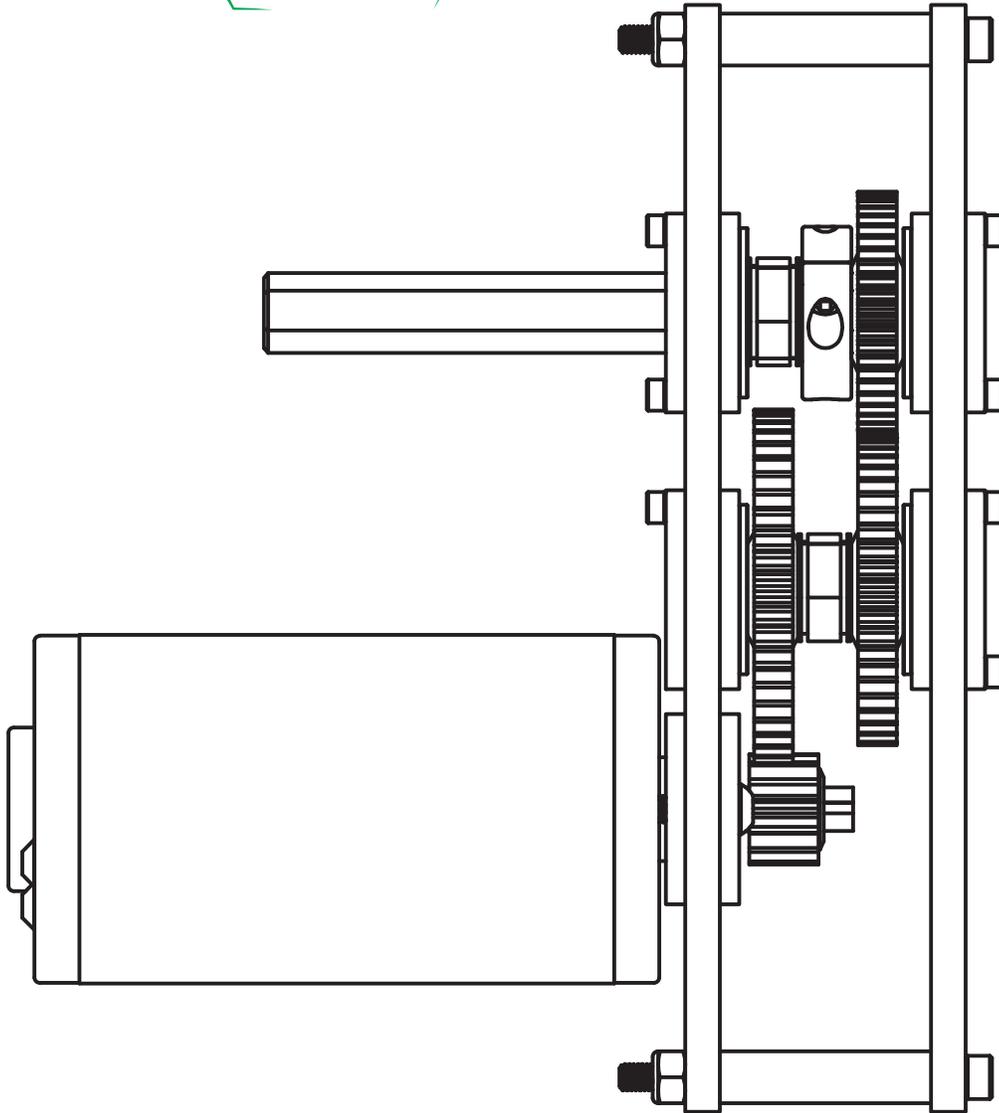
If you want more information on the modulox system or how to purchase a kit please go to www.modulox.com

THANK YOU!

iR3 CREATIVE

modulox

with: ⟨FlexHub⟩

THE box

Ten - Bearing Block For Modulox
Four - 1/2" Hex Bore, Flanged, Shielded Ball Bearing
Ten - Back Block For Modulox
Two - Retainer Clip, 8mm Id
One - Cim Gear, 14 Tooth
Two - Thru Block For Modulox
Four - Rail Spacer For Modulox
Two - 1/2" Hex Shaft X 5" Long For Modulox
Four - Motor Receiver For Modulox
Four - 10-32 Nylock Nut, Steel, Zinc Plated
Four - #10-32 X 2-1/2" Shcs
Four - #10-32 X 3/4" Shcs
Six - 3/8" Hex Bore, Shielded, Flnged Ball Bearing, 1.125" O.D.
Two - 2x2x10 Mm Machine Key
Three - Shaft , Hex 3/8" X 1.85" Long
Two - 3 Slot Modulox Plate
Twelve - 5/16" Flat Washer
Fourty - Shcs, 6-32 X .5", Steel, Zinc
One - 12 X 520 Tooth Cim Gear
Two - Gear, Standard Width, 20dp, .375 Hex Bore, 14 Tooth
One - Gear, Flex Hub, 20dp, 28 Tooth
Two - Gear, Flex Hub, 20dp, 50 Tooth
One - Gear, Flex Hub, 20dp , 40 Teeth
One - Gear, Flex Hub, 20dp , 35 Teeth
Three - Shaft Collar, Stnd, .500 Hex
One - Gear, Flex Hub, 20dp, 56 Tooth
**Three - Hub, Flex Hub, .500 Hex**
Seven - Hub, Flex Hub, .375 Hex
Two - Hub, Flex Hub, 8mm, 2mm Keyway
Twenty - Snap Ring, Stnd, .75 Id
One - Gear, Flex Hub, 20dp, 45 Tooth

www.modulox.com

modulox

with: ⟨FlexHub⟩

beat box

Below is the list of components included in the beat box modulox kit.
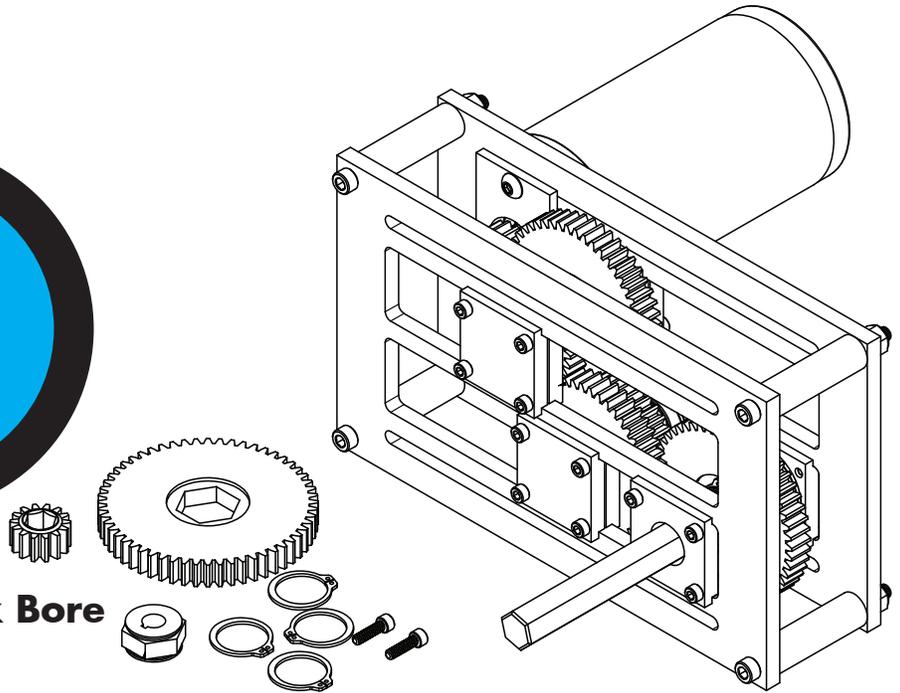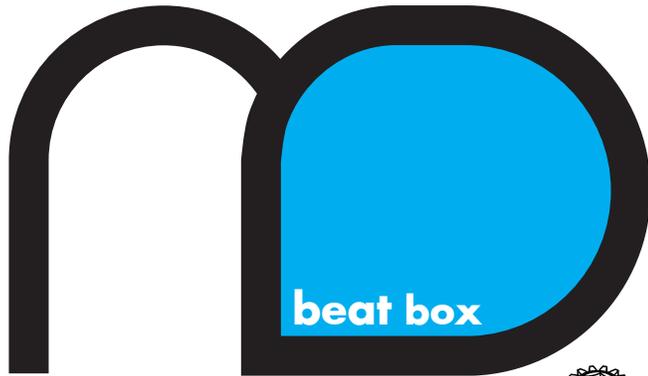
Two - Bearing Block, .500" Hex Bore
Five - Back Block For Modulox
One - Retainer Clip, 8mm Id
One - Cim Gear, 14 Tooth
One - Thru Block For Modulox
Four - Rail Spacer For Modulox
One - 1/2" Hex Shaft X 5" Long For Modulox
Two - Motor Receiver For Modulox
Four - #10-32 Nylock Nut, Steel, Zinc Plated
Four - #10-32 X 2-1/2" Shcs
Two - #10-32 X 3/4" Shcs
Four - Bearing Block, .375" Hex Bore
One - Gear, Standard Width, 20dp, .375 Hex Bore, 14 Tooth
One - 2x2x10 Mm Machine Key
Two - Shaft, Hex 3/8" X 1.85" Long
Two - 2 Slot Modulox Plate
Six - 5/16" Flat Washer
Twenty-Four - Shcs, 6-32 X .5", Steel, Zinc
One - Gear, Flex Hub, 20dp, 56 Tooth
One - Gear, Flex Hub, 20dp, 35 Teeth
One - Shaft Collar, Stnd, .500 Hex
Two - Gear, Flex Hub, 20dp, 50 Tooth
One - Gear, Flex Hub, 20dp, 45 Tooth
One - Gear, Flex Hub, 20dp, 28 Tooth
**Two - Hub, Flex Hub, .500 Hex**
Six - Hub, Flex Hub, .375 Hex
One - Hub, Flex Hub, 8mm, 2mm Keyway
Fourteen - Snap Ring, Stnd, .75 Id

www.modulox.com

iR3
CREATIVE

modulox
with: ⟨FlexHub⟩

lunch box

Two - 1 Slot Modulox Plate
Two - Bearing Block, .500" Hex Bore
Three - Back Block For Modulox
One - Retainer Clip, 8mm Id
One - Cim Gear, 14 Tooth
One - Thru Block For Modulox
Four - Rail Spacer For Modulox
One - 1/2" Hex Shaft X 5" Long For Modulox
Two - Motor Receiver For Modulox
Four - 10-32 Nylock Nut, Steel, Zinc Plated
Four - #10-32 X 2-1/2" Shcs
Two - #10-32 X 3/4" Shcs
Two - Bearing Block, .375" Hex Bore
One - 2x2x10 Mm Machine Key
One - Shaft , Hex 3/8" X 1.85" Long
Six - 5/16" Flat Washer
Sixteen - Shcs, 6-32 X .5", Steel, Zinc
One - Gear, FlexHub, 20dp, 56 Tooth
One - Gear, FlexHub, 20dp, 50 Tooth
One - Gear, FlexHub, 20dp, 28 Tooth
One - Hub, Flex Hub, .500 Hex
Three - Hub, Flex Hub, .375 Hex
One - Hub, Flex Hub, 8mm, 2mm Keyway
One - Shaft Collar, Stnd, .500 Hex
One - Gear, Standard Width, 20dp, .375 Hex Bore, 14 Tooth
Eight - Snap Ring, Stnd, .75 Id

iR3 CREATIVE