

# Instruction Manual

1/8 SCALE NITRO CAR



**SHEPHERD**

MICRO RACING TEAM

**VELOX**  
**8.3**

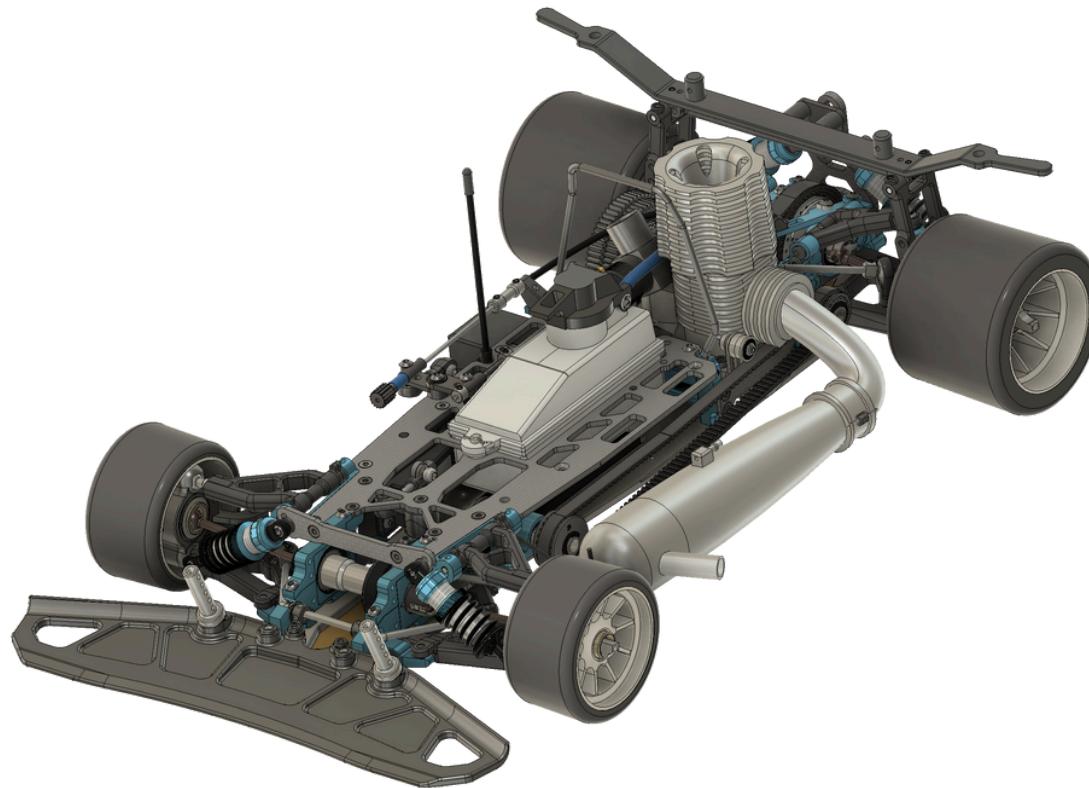
**Thank you for purchasing a Shepherd product. With our extensive history of National, European and World Championship success we welcome you to Team Shepherd.**

**Our philosophy is to produce RC race cars that can be used and enjoyed regardless of if you are beginner or an experienced racer. From the club racing to competing in World Championships, Shepherd has been at the forefront of developing RC racing cars to be easy to use and maintain and be fast.**

**Our cars continually evolve and with our approach to evolution of the platforms, we strive to have a clear upgrade path from one release to the next to protect the investment our customers make in the Shepherd brand.**

**We wish you every success with your new car, enjoy the process of building and driving the car.**

**Race On!**



## Safety

Please read this instruction manual carefully before assembling and operating this Competition Radio Controlled car.

- This product is an authentic radio controlled Competition Racing Car. This product is not a toy.
- To enjoy this Competition RC Car to it's full potential, follow the assembly steps carefully before operating it, perform maintenance after each operating session, and if required, replace worn parts with the equivalent or optional upgrade parts.
- If you are not used to assembling a Competition RC cars, seek advice from people who have enough experience to help in assembly or contact your local distributor via [www.team-shepherd.com](http://www.team-shepherd.com)
- This Competition RC car requires rechargeable batteries. Please follow the instructions for these batteries carefully to avoid damage, which may cause heat, liquid leakage, and or fire.
- This product includes many small or sharp parts, so be careful with them and keep them out of the reach of small children.
- Only use the correct fitting and right size tools for construction. All tools including knives, pliers and hex drivers require careful handling to avoid injury.
- This Competition RC car is designed to operate on purpose built or designated tracks designed for it's use.
- Before operating this car, always check the mechanical status of the car. Also check that the transmitter and receiver frequencies correspond and are not used by any other racer at the same time. Check that the batteries of the transmitter and receiver- are fully charged.
- If the car behaves unexpectedly in use, stop the model immediately and find out the reason. Don't operate the car again until the problem is solved. To continue operating the model without solving the problem may lead to further trouble or unforeseen damage or accidents!
  - Don't put fingers or any objects inside rotating or moving parts!
  - Always operate the model with bodyshell attached. (not included in the kit)
- After use, always check all the mechanics of the car. We advise to clean the car immediately after use and inspect the parts for wear or fractures. Replace where necessary and re grease / oil any relevant parts.
  - If the car is used in the wet, ensure that all the electric equipment is waterproofed and after use, ensure that all moving parts are dried immediately.
- After using the car empty the fuel tank (depending on model) disconnect the receiver battery, and store in a clean warm environment.

## SYMBOL INDEX

### BAG 1

### STEP 1

On each page you will see these symbols. BAG and STEP in each BAG you will find parts to complete this STEP

1

2

3

4

Assemble the parts in this order

4x

60 62 13

Part Number

Quantity used in STEP

In these boxes you will find build tips

## LIQUIDS Required

### NOT INCLUDED

When these symbols appear use where directed



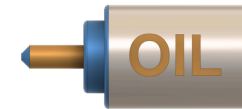
CA GLUE



THREADLOCK



GREASE

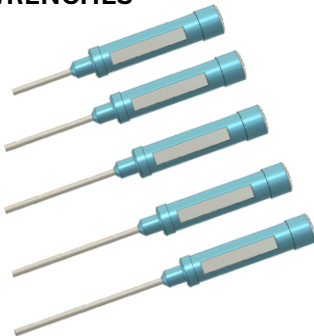


OIL

## TOOLS Required

### METRIC ALLEN WRENCHES

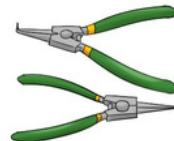
1.5  
2.0  
2.5  
3.0  
5.0



### METRIC SOCKET WRENCHES



### PLIARS



### HOBBY KNIFE



### CALIPERS



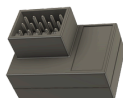


## EQUIPMENT REQUIRED

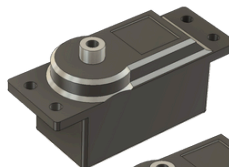
THIS EQUIPMENT IS REQUIRED TO RUN YOUR RC CAR and NOT INCLUDED



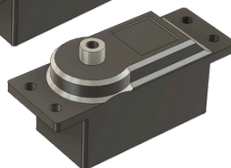
TRANSMITTER



RECIEVER

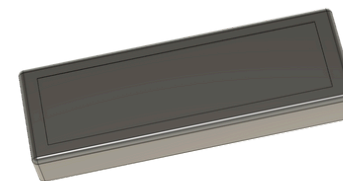


THROTTLE



STEERING

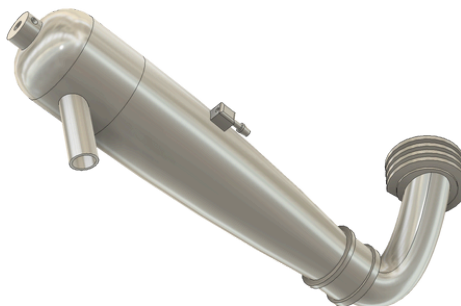
SERVOS



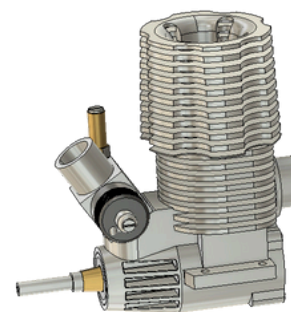
RECIEVER BATTERY PACK



WHEELS & TYRES



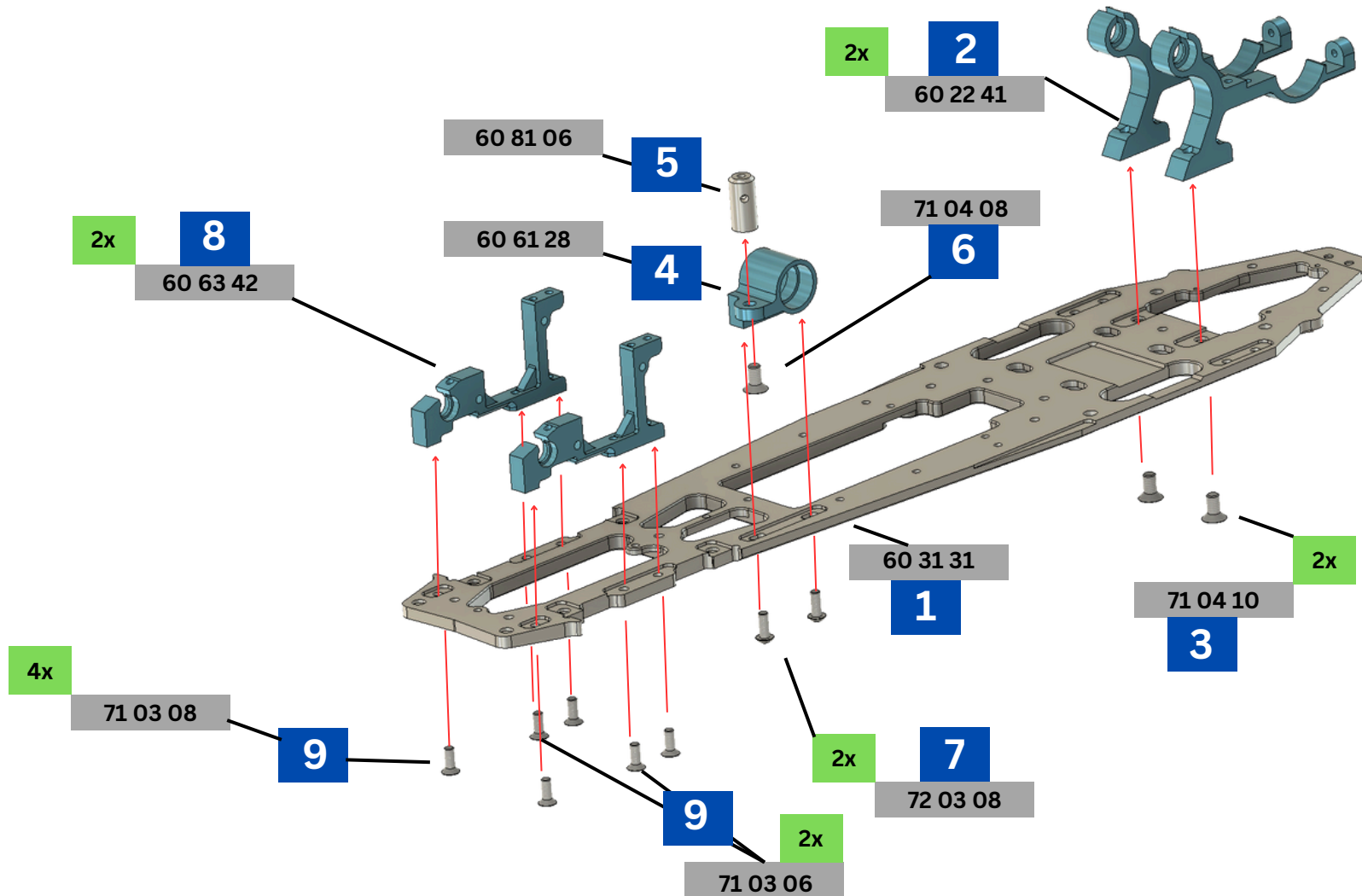
EXHUAST & MANIFOLD



3.5cc IC ENGINE

### ALSO REQUIRED

STARTER BOX  
NITRO FUEL  
FUEL BOTTLE  
GLOW START  
BODY



## Part Number

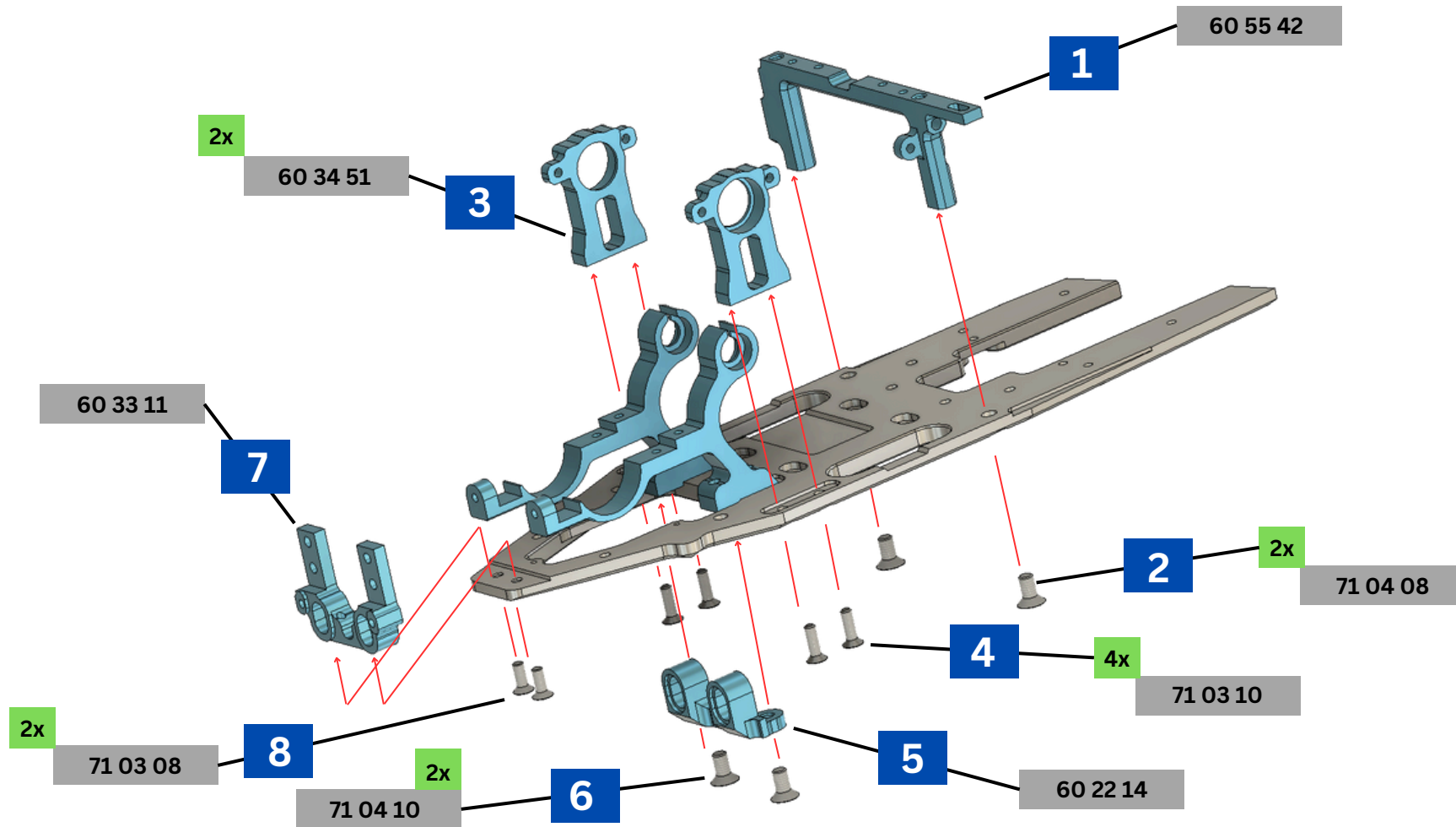
## Description

## Amount

## Optional Part Number

## Description

|          |                       |   |  |  |
|----------|-----------------------|---|--|--|
| 60 31 31 | Chassis V8.3          | 1 |  |  |
| 60 22 41 | Rear Lower Bulkhead   | 2 |  |  |
| 60 61 28 | Middle Bearing Block  | 1 |  |  |
| 60 81 06 | Exhaust Spring Mount  | 1 |  |  |
| 71 04 10 | Hex Countersink M4x10 | 2 |  |  |
| 60 63 42 | Front Lower Bulkhead  | 2 |  |  |
| 71 04 08 | Hex Countersink M4x8  | 1 |  |  |
| 71 03 08 | Hex Countersink M3x8  | 4 |  |  |
| 72 03 08 | Hex Buttonhead M3x8   | 2 |  |  |
| 71 03 06 | Hex Countersink M3x6  | 2 |  |  |



## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 55 42

Radio Plate Mount

1

60 34 51

Gearbox Bulkhead

2

60 22 14

Lower Rear Hinge Pin Bracket

1

60 33 11

Rear Panel

1

71 04 08

Hex Countersink M4x8

2

71 03 10

Hex Countersink M3x10

4

71 04 10

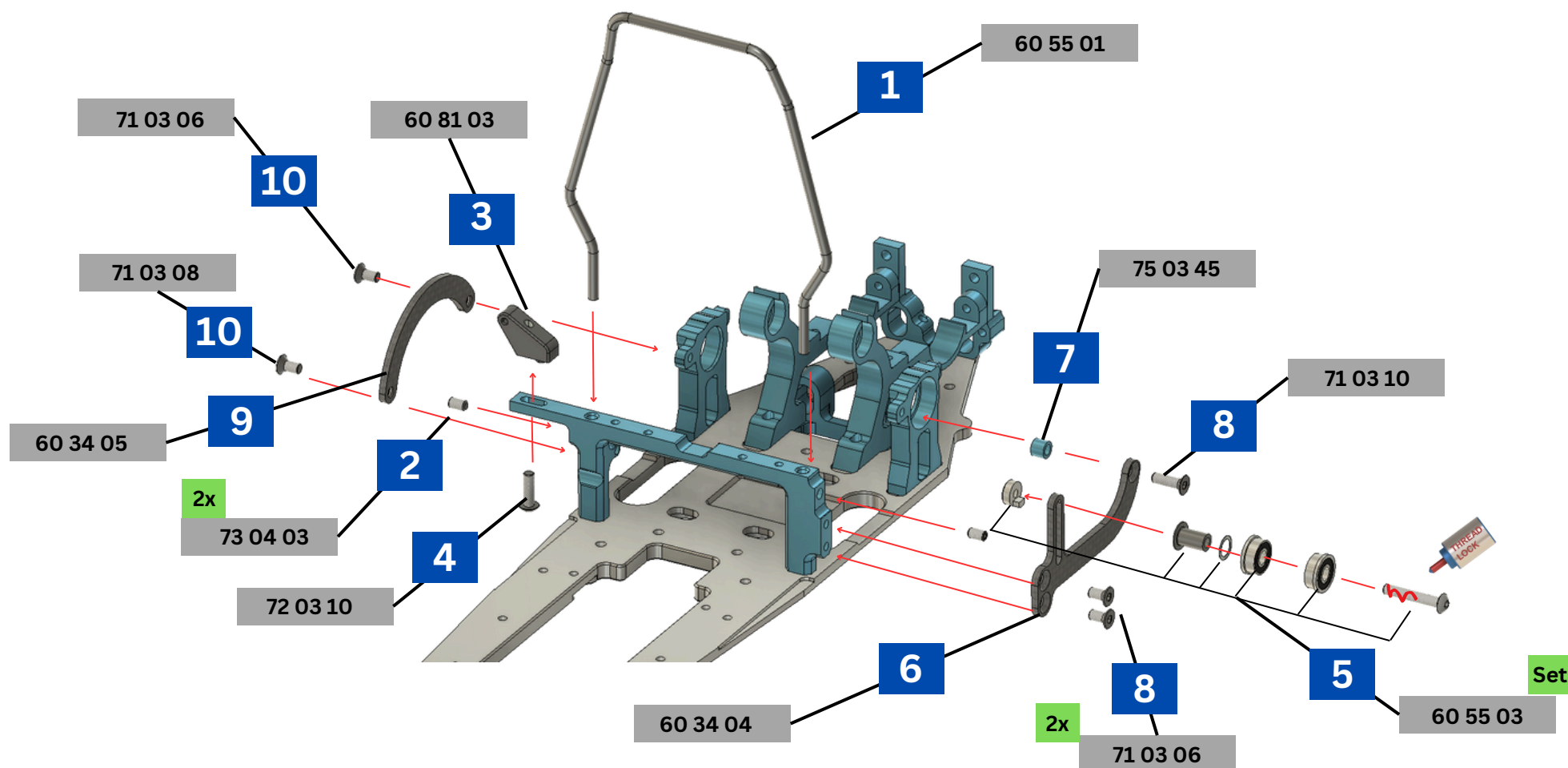
Hex Countersink M4x10

2

71 03 08

Hex Countersink M3x8

2



## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 55 01  
73 04 03  
60 81 03  
72 03 10  
60 55 03  
60 34 04  
60 34 05  
71 03 08  
71 03 06  
75 03 45

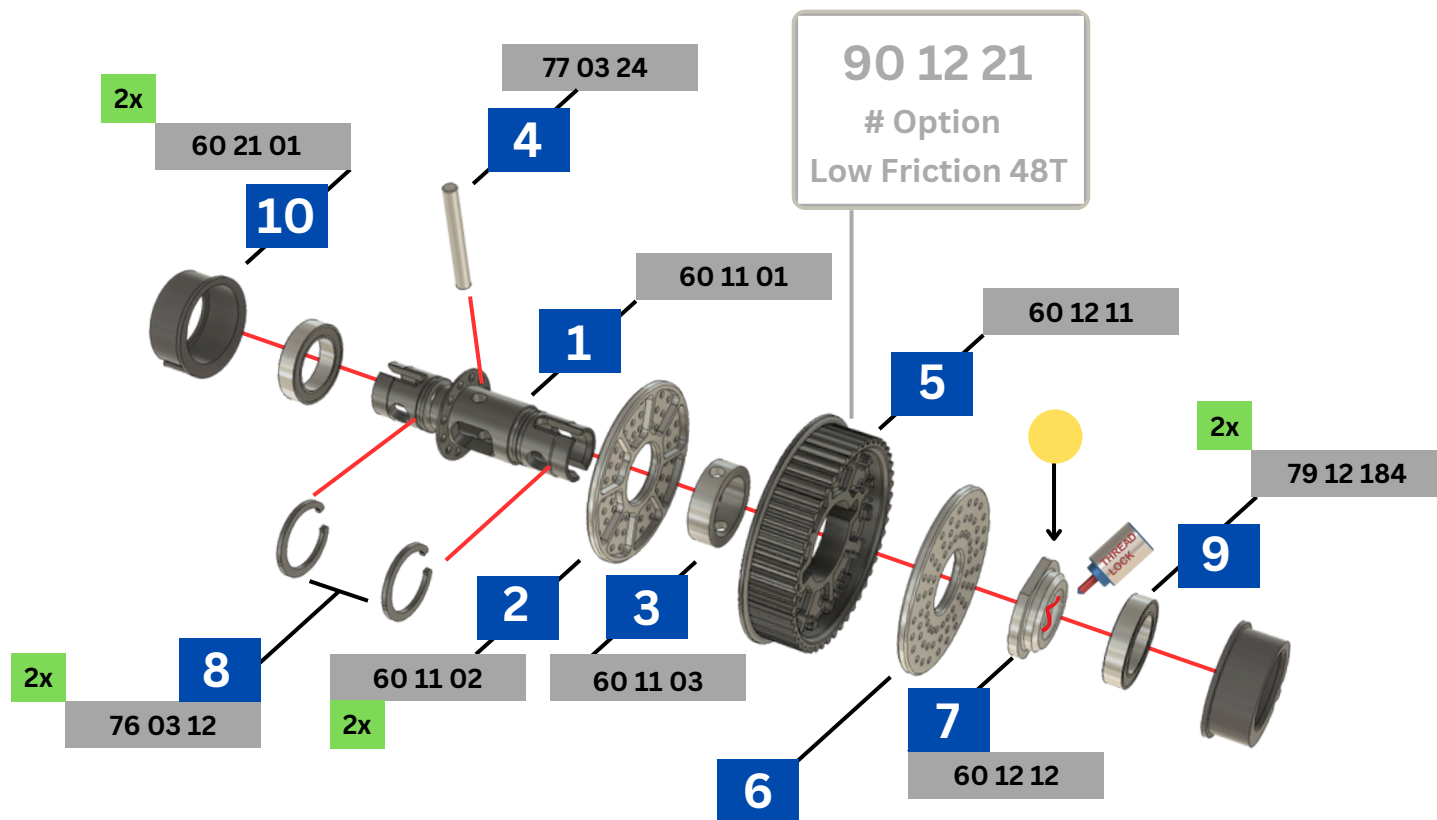
Rollover Bar  
Set Screw M4x3  
Brake Cable Support  
Hex Button screw M3x10  
Middle Belt Tensioner  
Belt Tensioner Stiffner Left  
Longitunal Stiffner Right  
Hex Countersunk M3x8  
Hex Countersunk M3x6  
Hex Countersunk M3x10  
4.5mm Spacer

1  
2  
1  
1  
1  
1+1+2+1+1  
1  
1  
1  
3  
1  
1  
1

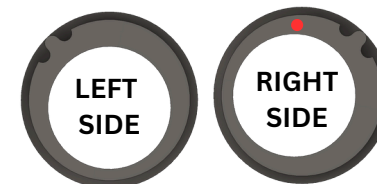
8

60 55 25

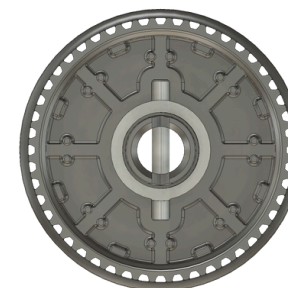
Belt Tensioner Non stiffner



Note  Left Hand Thread



The Right Excentric is Marked with a Pin



Note Orientation

## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 11 01  
60 11 02  
60 11 03  
60 12 11  
60 12 12  
77 03 24  
76 03 12  
79 12 184  
60 21 01

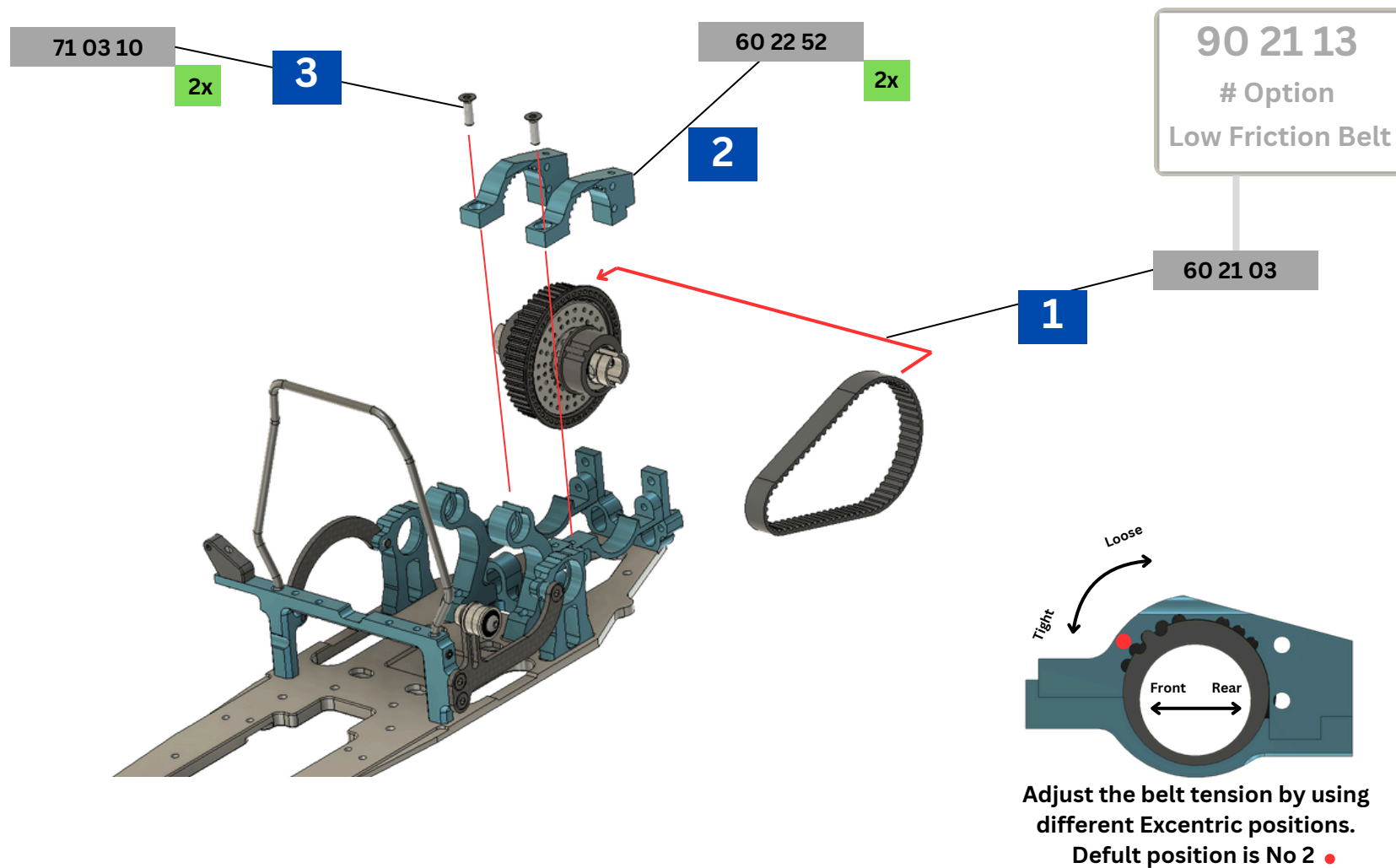
Rear Solid Axle  
Brake Disc  
Brake Disc Clamping Ring  
Rear Pulley 48T  
Locknut  
Location Pin 3x24mm  
Retaining Clip  
Bearing 12x18x4  
Excentric Bearing Holder

1  
2  
1  
1  
1  
1  
2  
2  
1+1

9

90 12 21

Low Friction 48T



## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 21 03

Rear Belt 201mm

1

90 21 13

Low Friction Belt 201mm

60 22 52

Rear Top Bulkhead

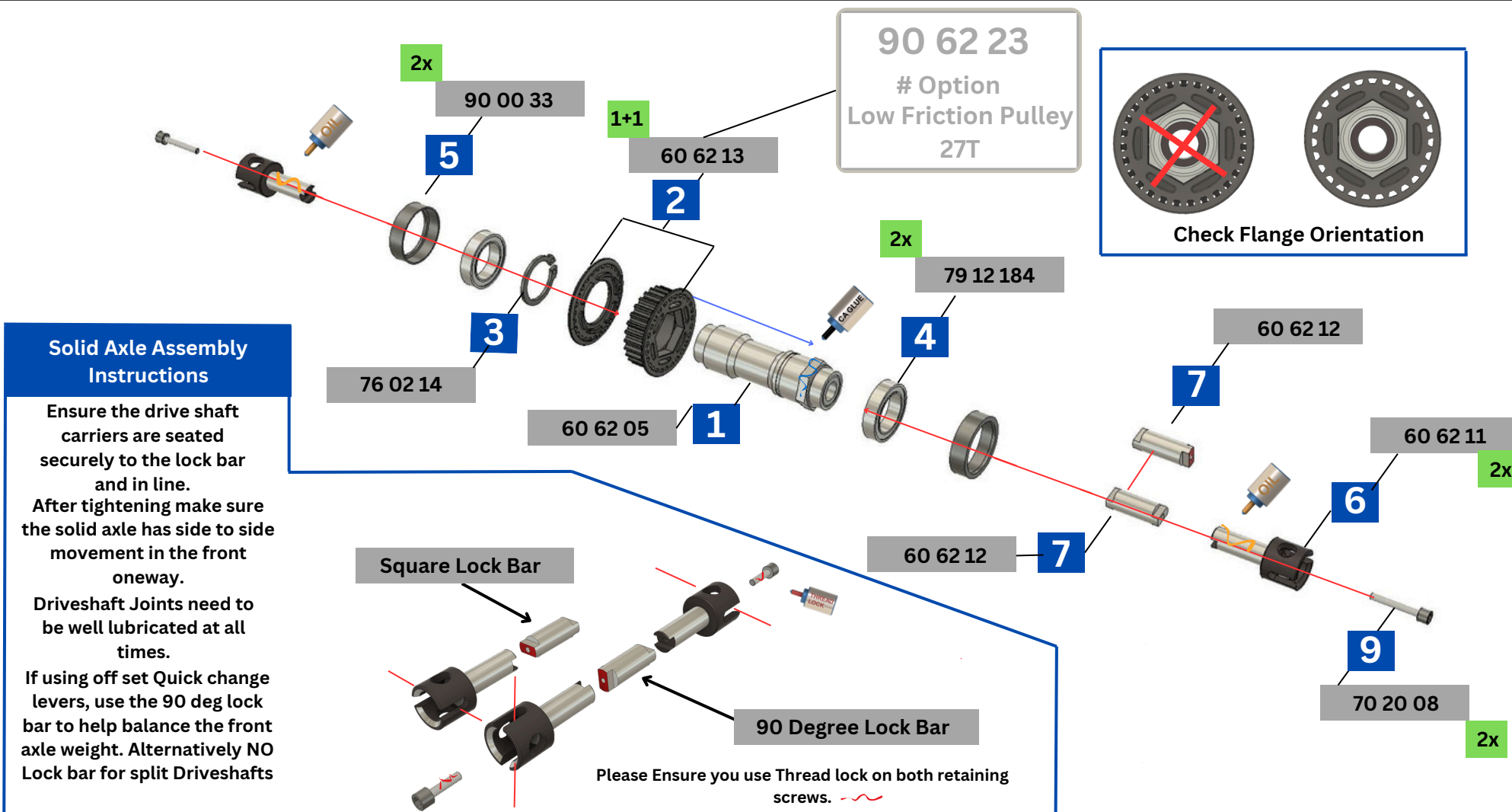
2

71 03 10

Hex Countersink M3x10

2





### Part Number

### Description

### Amount

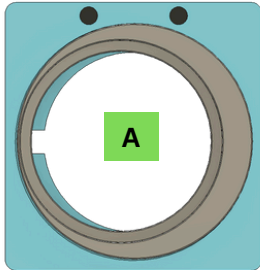
### Optional Part Number

### Description

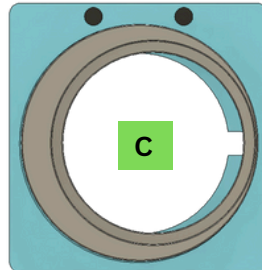
|           |                      |     |          |                  |
|-----------|----------------------|-----|----------|------------------|
| 60 62 11  | Driveshaft carrier   | 2   |          |                  |
| 60 62 05  | Oneway Front         | 1   |          |                  |
| 60 62 13  | Pulley + Flange 27T  | 1+1 | 90 62 23 | Low Friction 27T |
| 76 02 14  | Retaining Ring 14mm  | 1   |          |                  |
| 90 00 33  | Bearing Inserts 18mm | 2   |          |                  |
| 79 12 184 | Bearing 12x18x4      | 2   |          |                  |
| 60 62 12  | Centre Lock bars     | 1+1 |          |                  |
| 70 20 08  | Retaining screw      | 2   |          |                  |

FRONT

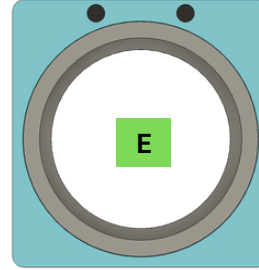
LOW and FORWARD



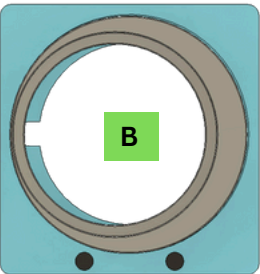
LOW and REAR



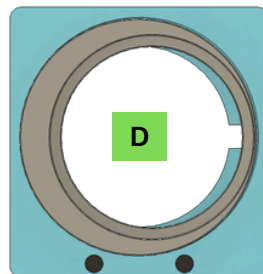
LOW and CENTRAL



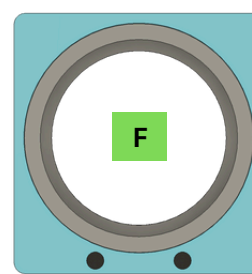
HIGH and FORWARD



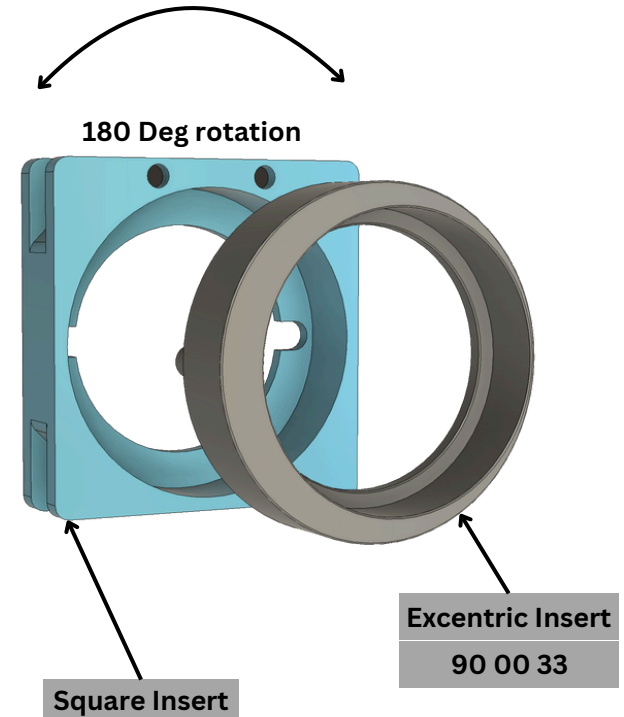
HIGH and REAR



HIGH and CENTRAL



REAR



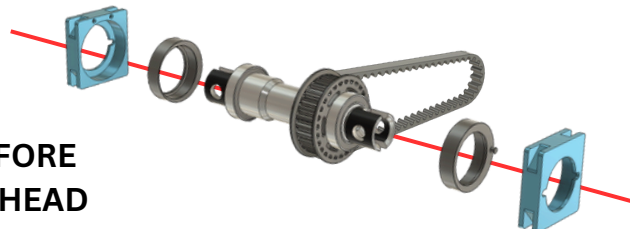
## NOTE:

The Square Inserts set the Axle Height.  
The dots can only be fitted either High or Low.

Move the plastic insert Left or Right to move the Axle Forwards or Backwards Or use Zero offset insert for a central position High and Low.

## IMPORTANT

PLEASE ASSEMBLE ALL PARTS BEFORE  
SLOTING UNIT INTO FRONT BULKHEAD



## INSERT POSITIONS

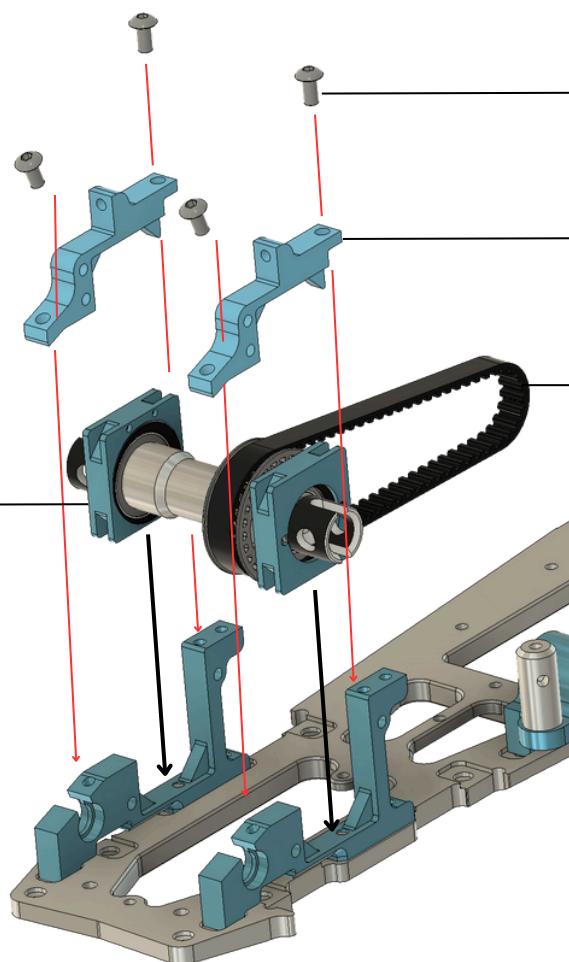
Use Positions A,B,E and F with 210mm Belt  
Use Positions C,D with 207mm Belt  
DEFAULT Position (Start) is E using Non-Excentric insets

The front Belt tension is adjustable by moving the middle bearing block (606128).

We recommend you fix in the central position when using the zero off set inserts with 210mm belt ( 606117) as Default.

2x

60 63 44



4x

72 03 06

2x

60 63 43

60 61 17

60 61 18

Select respective Belt dependent on required Axle position as per page 12

Then ONLY slot front axle and squares into Lower Bulkhead retaining triangles remembering to keep dots at Top or bottom identically for both sides.

## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 63 43

Top Front Bulkhead

2

60 63 44

Front Square Bearing Holder

2

60 61 17

Front Belt 210mm

1

60 61 18

Front Belt 207mm

1

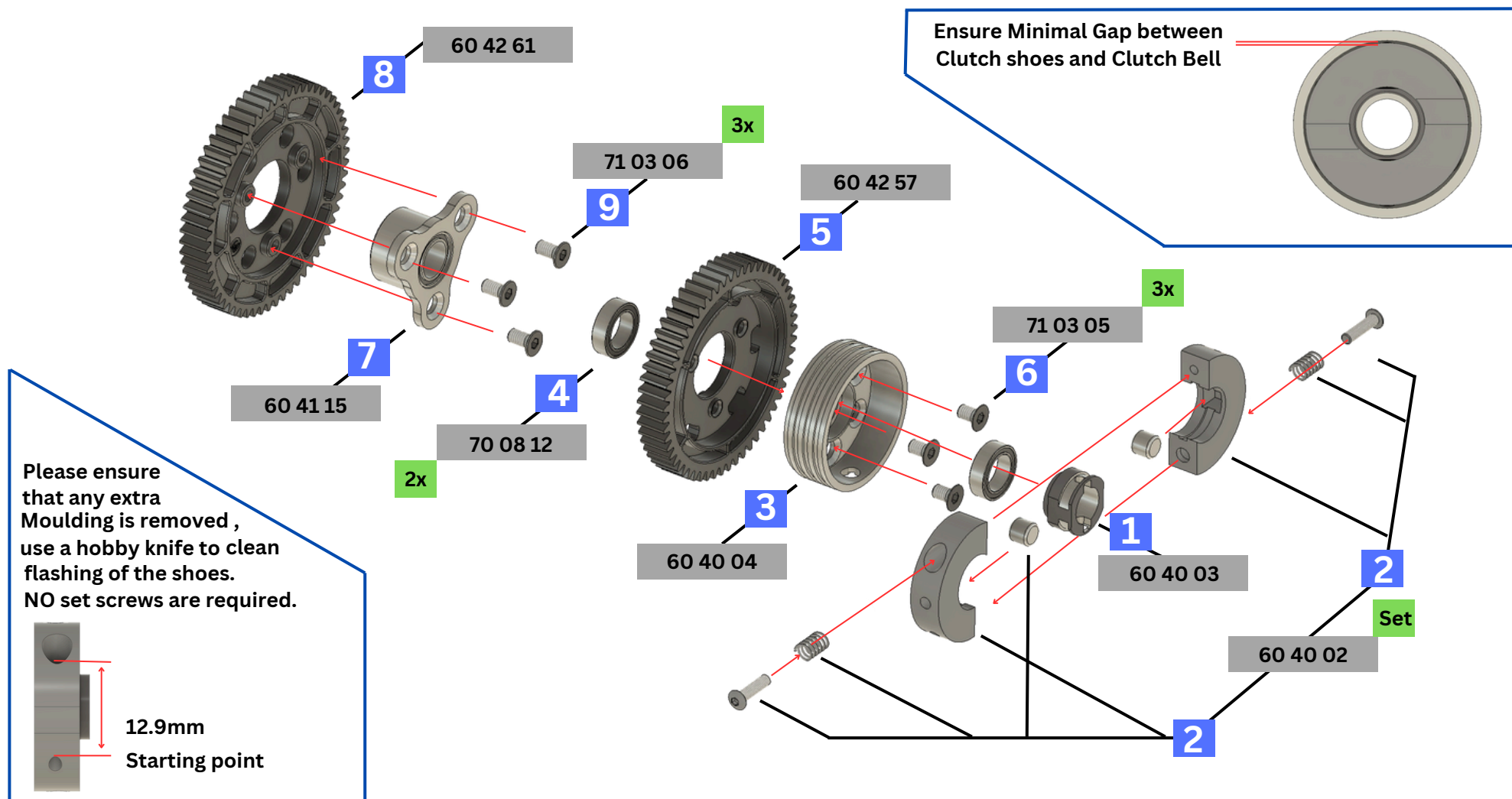
72 03 06

Hex Buttonhead screw M3x6

4

90 61 17

Low Friction Belt



### Part Number

### Description

### Amount

### Optional Part Number

### Description

60 40 02  
60 40 03  
60 40 04  
60 41 15  
70 08 12  
71 03 06  
71 03 05  
60 42 57  
60 42 61

2 Speed Shoe Set  
2 Speed Adapter 8mm  
2 Speed Clutch Bell  
2 Speed One-way  
Bearing 8x12x3.5  
Hex Countersunk screw M3x6  
Hex Countersunk screw M3x5  
2nd Gear Spur 57T  
1st Gear Spur 61T

2+2+2+2+2  
1  
1  
1  
2  
3  
3  
1  
1

14

60 42 56/58  
60 42 60/62

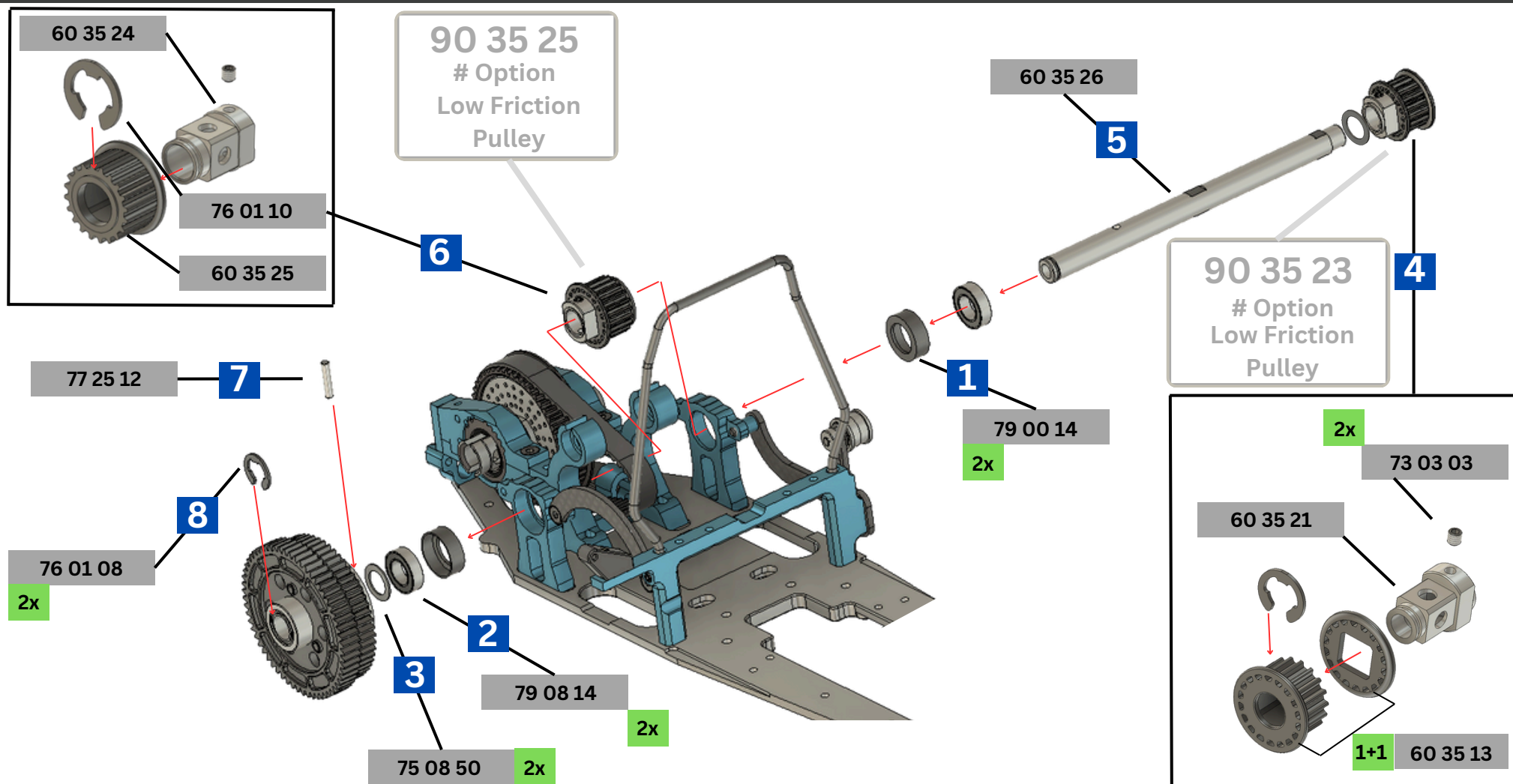
2nd Gear Spur 56T or 58T  
1st Gear Spur 60T or 62T

# 2 Speed Shaft

# VELOX 8.3

BAG 3

STEP 2



## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 35 13  
60 35 21  
60 35 24  
60 35 25  
60 35 26  
73 03 03  
76 01 08  
76 01 10  
77 25 12  
79 00 14  
79 08 14  
75 08 50

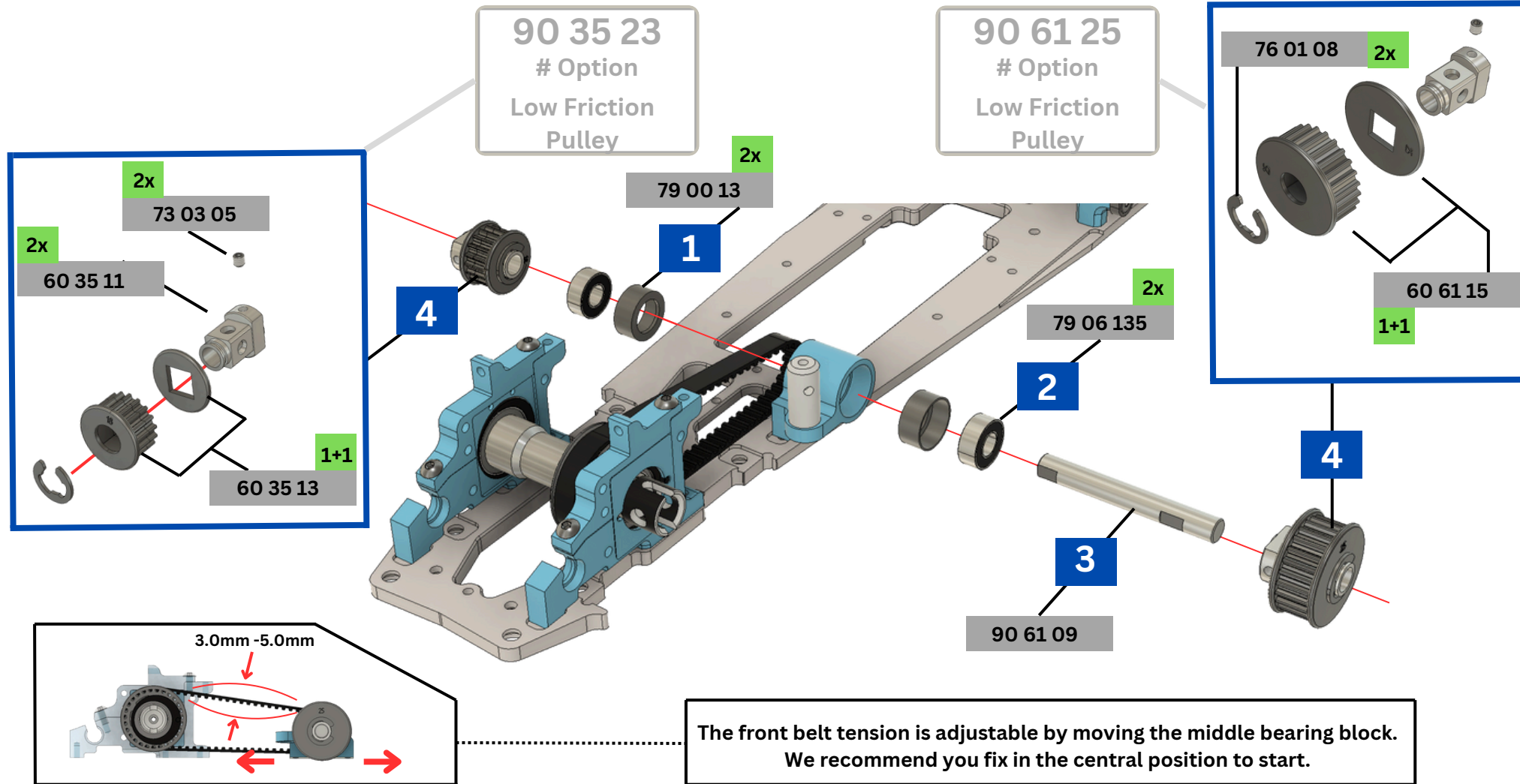
Pulley 18T  
Pulley Adapter 8mm 18T  
Pulley Adapter 8mm 20T  
Pulley 20T  
2 Speed Shaft 8 mm  
Set screw M3x3  
Circlip 8mm  
Circlip 10mm  
Pin 2.5x12mm  
Bearing insert 14mm  
Bearing 8x14x4  
Washer 8x12x0.5

1+1  
1  
1  
1  
1  
2  
2  
2  
1  
2  
2  
2

90 35 23  
90 35 25

Low Friction 18T  
Low Friction 20T





## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 35 11

Pulley Adapter

2

60 35 13

Pulley 18T

1+1

60 61 15

Pulley 26T

1+1

90 61 09

Middle bearing Block Shaft

1

73 03 05

Set screw M3x5

2

76 01 08

Circlip 8mm

2

79 00 13

Bushing 13mm

2

79 06 135

Bearing 6x13x5

2

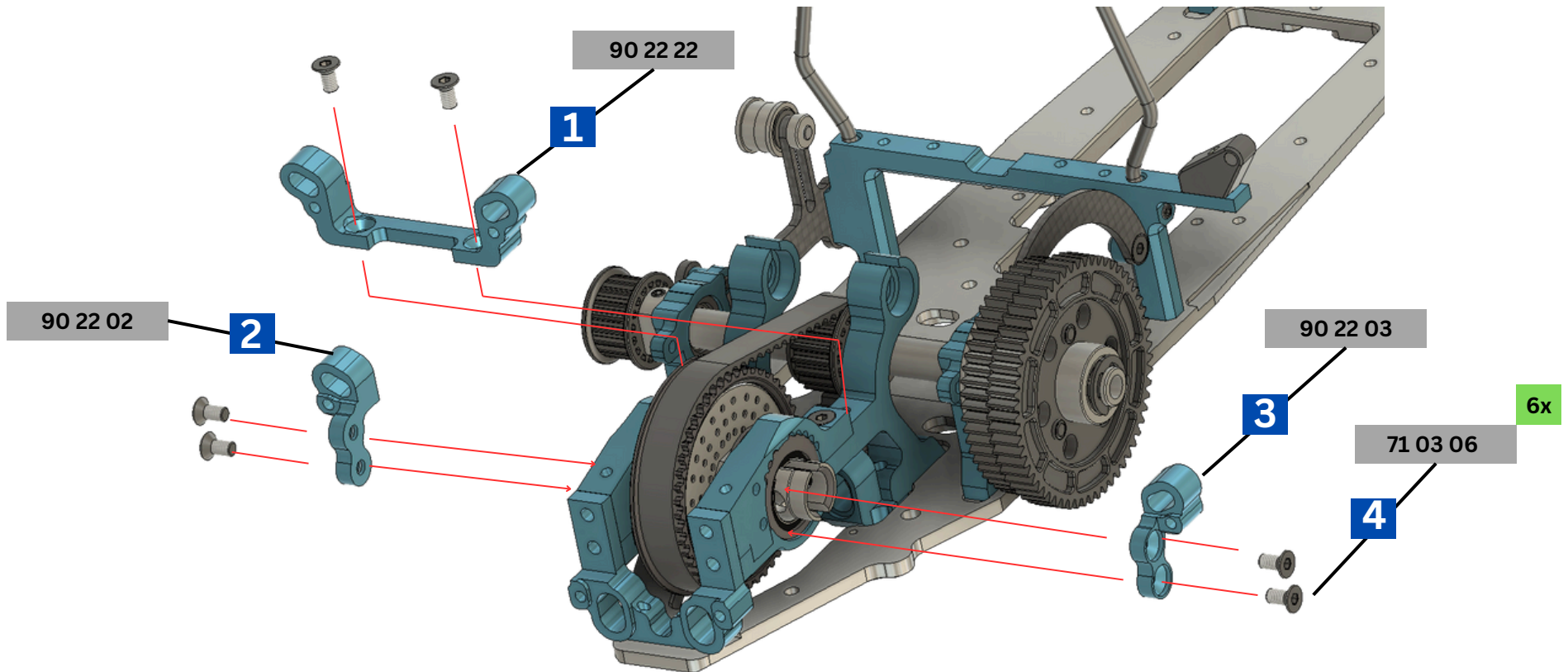
90 35 23

Low Friction Pulley

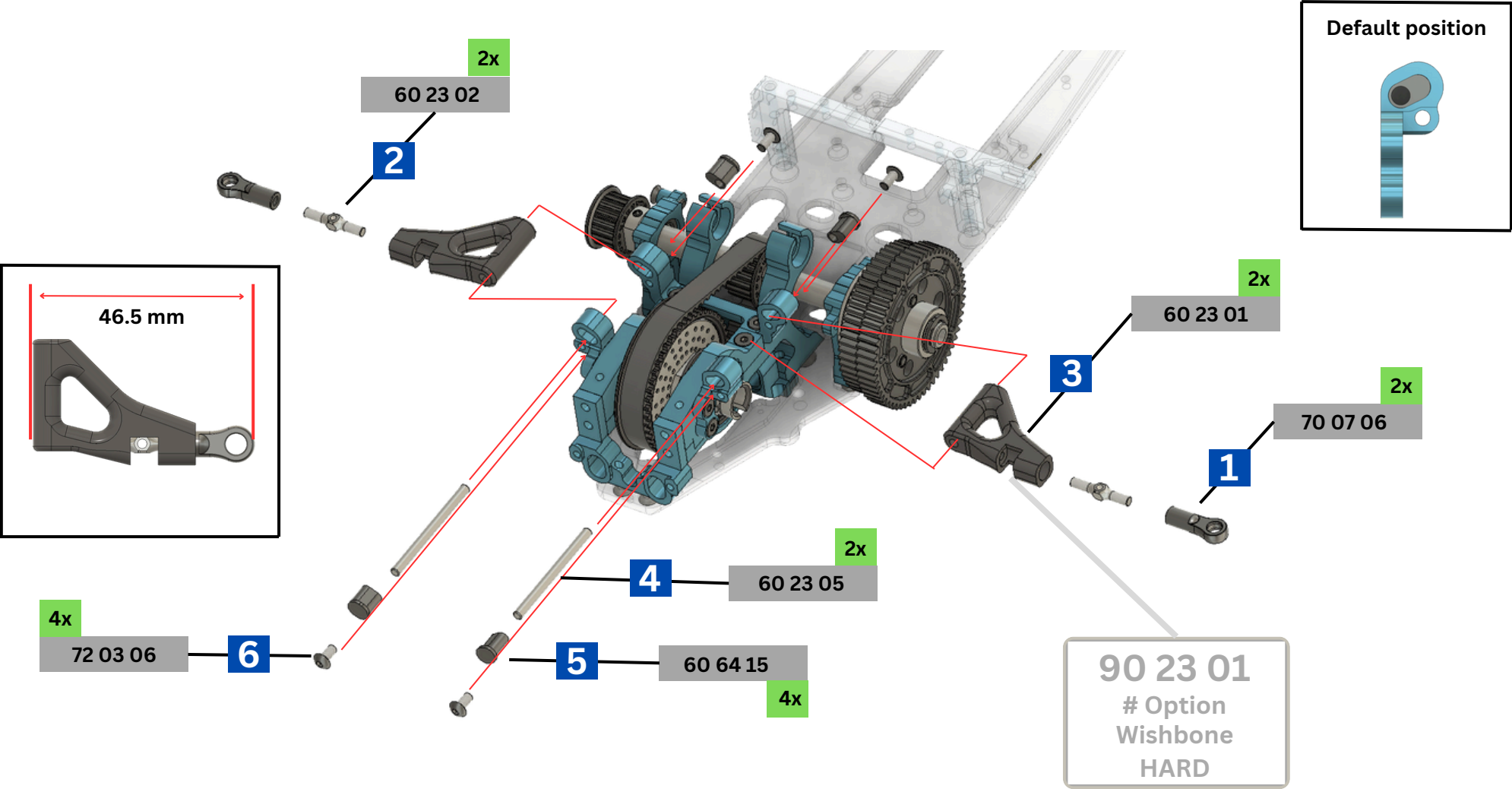
90 61 25

Low Friction Pulley

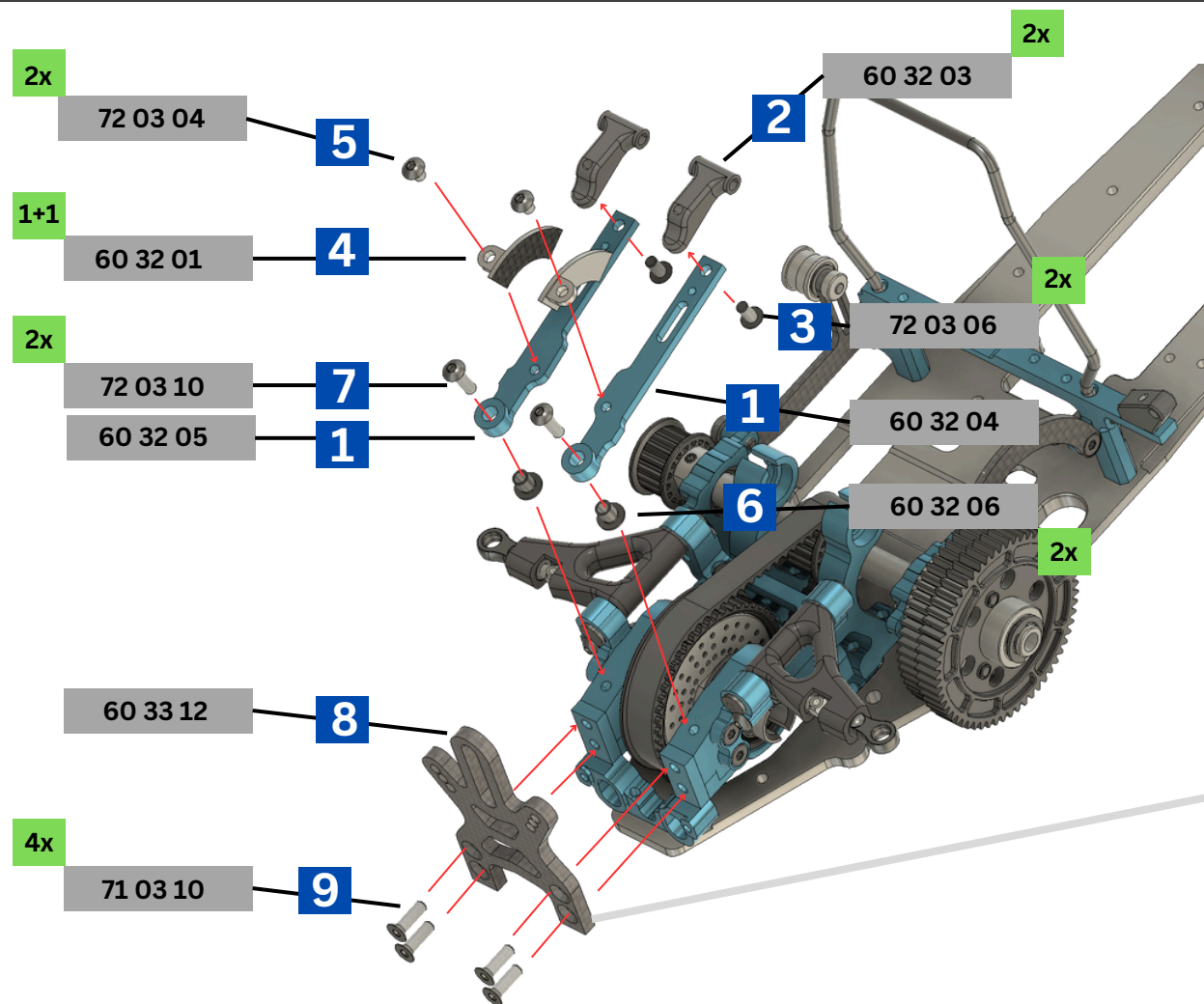




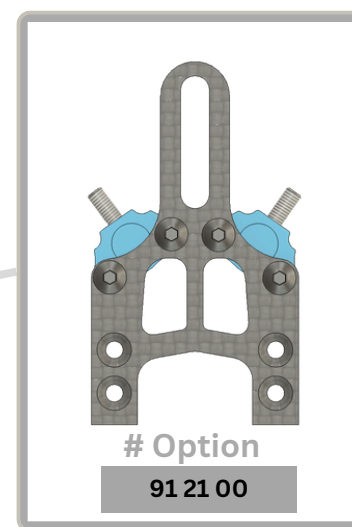
| Part Number | Description                        | Amount | Optional Part Number | Description |
|-------------|------------------------------------|--------|----------------------|-------------|
| 90 22 02    | Rear Hinge Pin Bracket Upper Left  | 1      |                      |             |
| 90 22 03    | Rear Hinge Pin Bracket Upper Right | 1      |                      |             |
| 90 22 22    | Rear Hinge Pin Bracket Upper       | 1      |                      |             |
| 71 03 06    | Hex Countersunk screw M3x6         | 6      |                      |             |



| Part Number | Description               | Amount | Optional Part Number | Description                   |
|-------------|---------------------------|--------|----------------------|-------------------------------|
| 60 23 01    | Rear Upper Wishbone       | 2      | 90 23 01             | Rear Upper Wishbone HARD      |
| 60 23 02    | R & L Turnbuckle          | 2      |                      |                               |
| 60 23 05    | Hinge Pin Upper Rear      | 2      | BR600001T            | Titanium Hinge Pin Upper Rear |
| 70 07 06    | Ball Joint 4.9mm          | 2      |                      |                               |
| 60 64 15    | Excentric Insert          | 4      |                      |                               |
| 72 03 06    | Hex Buttonhead Screw M3x6 | 4      |                      |                               |



Please ensure the Brake Levers move freely once tightened.



## Part Number

## Description

## Amount

## Optional Part Number

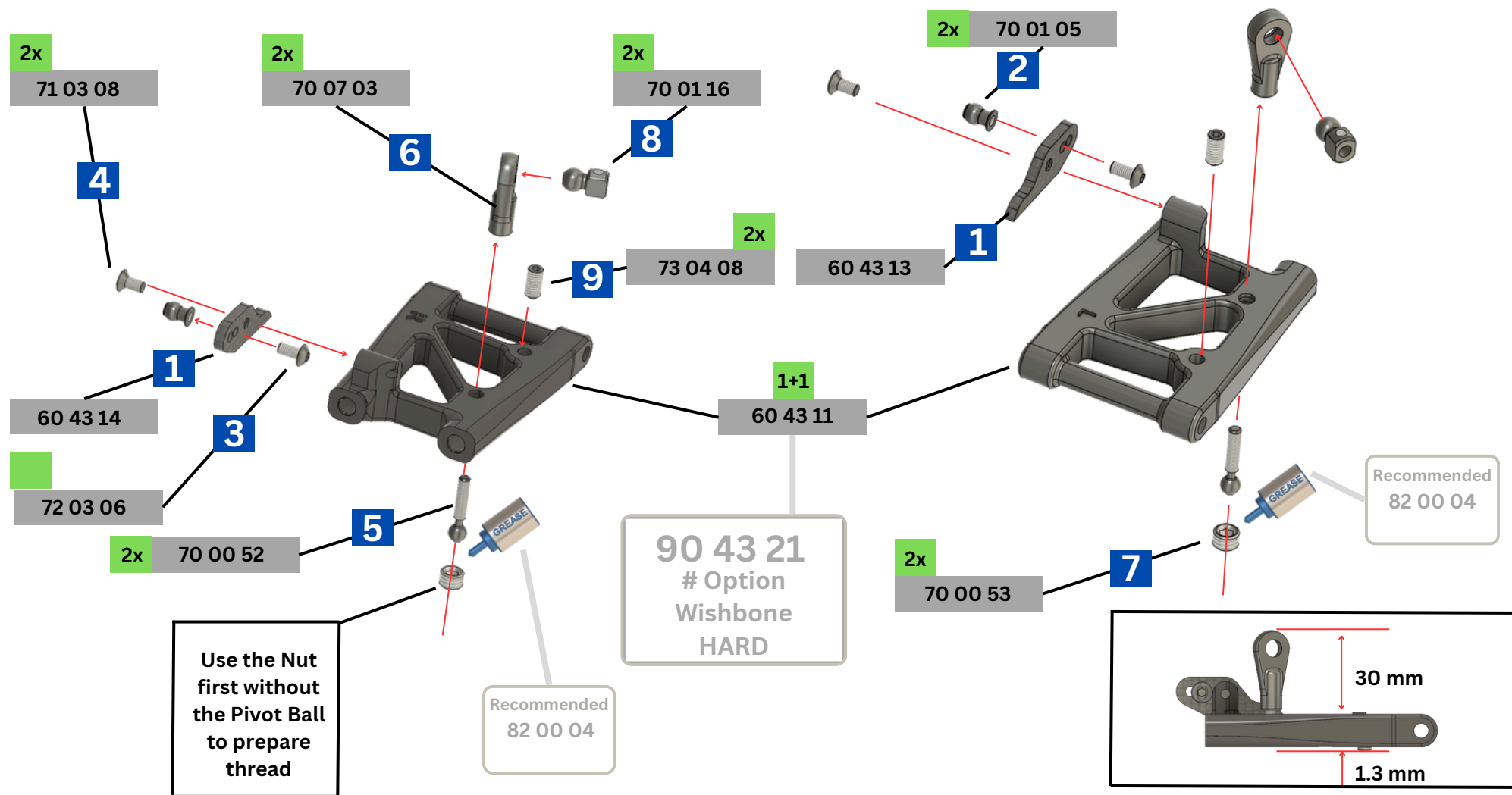
## Description

|          |                             |     |  |  |
|----------|-----------------------------|-----|--|--|
| 60 32 01 | Brake Pads L&R              | 1+1 |  |  |
| 60 32 03 | Brake Wire Linkage          | 2   |  |  |
| 60 32 04 | Brake Lever Right           | 1   |  |  |
| 60 32 05 | Brake Lever Left            | 1   |  |  |
| 60 32 06 | Brake Lever Bushing         | 2   |  |  |
| 60 33 12 | Rear Shocktower Carbon      | 1   |  |  |
| 71 03 10 | Hex Countersunk Screw M3x10 | 4   |  |  |
| 72 03 04 | Hex Buttonhead Screw M3x4   | 2   |  |  |
| 72 03 06 | Hex Buttonhead Screw M3x6   | 2   |  |  |
| 71 03 10 | Hex Buttonhead Screw M3x10  | 2   |  |  |

91 21 00

Shocktower vertical mounting set

## STEP 1



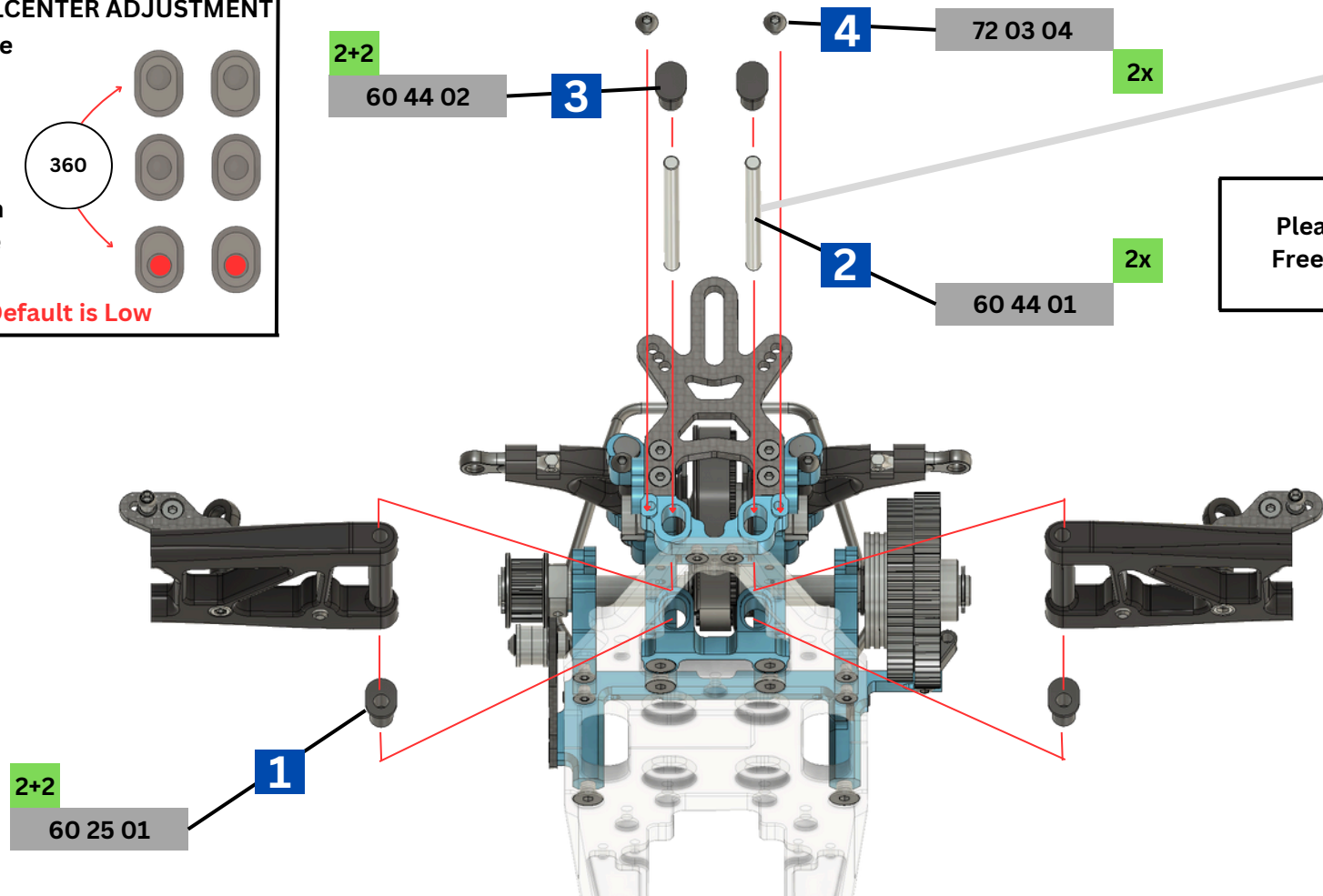
| Part Number | Description                   | Amount | Optional Part Number | Description              |
|-------------|-------------------------------|--------|----------------------|--------------------------|
| 60 43 11    | Rear Lower Wishbone           | 1+1    | 90 43 21             | Rear Lower Wishbone HARD |
| 60 43 13    | Shock Mount Narrow Left       | 1      |                      |                          |
| 60 43 14    | Shock Mount Narrow Right      | 1      |                      |                          |
| 70 00 52    | Pivot Ball Anti-roll Bar Long | 2      |                      |                          |
| 70 00 53    | Adustable Nut Pivot Ball M3   | 2      |                      |                          |
| 70 01 05    | Pivot Ball 4.9mm              | 2      |                      |                          |
| 70 01 16    | Anti-Roll Bar Pivot Ball      | 2      |                      |                          |
| 70 07 03    | BallJoint 6mm Long            | 2      |                      |                          |
| 71 03 08    | Hex Contersunk Screw M3x8     | 2      |                      |                          |
| 72 03 06    | Hex Buttonhead Screw M3x6     | 2      |                      |                          |
| 73 04 08    | Set Screw M4x8                | 2      | 20                   |                          |

**LOWER ROLLCENTER ADJUSTMENT**

To adjust the rear rollcenter you can change and/or turn around the inserts

360

Default is Low

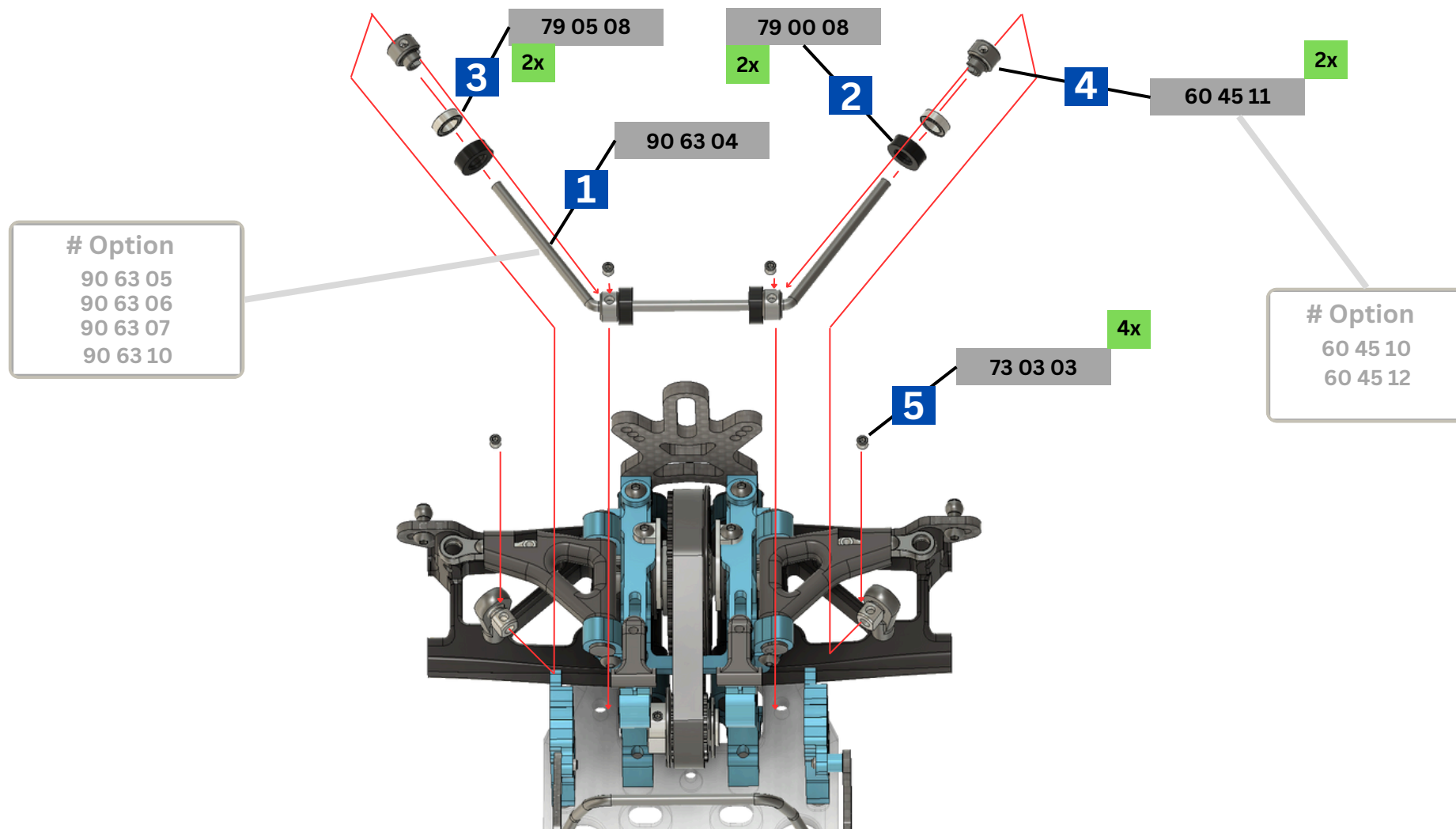


BR600001T  
# Option  
Titanium Hinge  
Pins

Please Ensure All Parts Move  
Freely when Fully Assembled.

| Part Number | Description               | Amount | Optional Part Number | Description         |
|-------------|---------------------------|--------|----------------------|---------------------|
| 60 25 01    | Excentric Insert Set      | 2+2    |                      |                     |
| 60 44 01    | Rear Lower Hinge Pins     | 2      | BR600001T            | Titanium Hinge Pins |
| 60 44 02    | Excentric Insert Set      | 2+2    |                      |                     |
| 72 03 04    | Hex Buttonhead Screw M3x4 | 2      |                      |                     |





## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 45 11

Rear Anti-roll Bar Bushing 2.6mm

90 63 04

Rear Anti-roll Bar 2.6mm

73 03 03

Set Screw M3x3

79 00 08

Bearing Insert 8mm

79 05 08

Bearing 5x8x2.5

60 45 10/12/13

Rear Anti-roll Bar Bushing

90 63 05/6/7/10

Rear Anti-roll bars 2.7/2.8/2.9/3mm



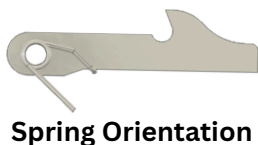
# Rear Uprights

# VELOX 8.3

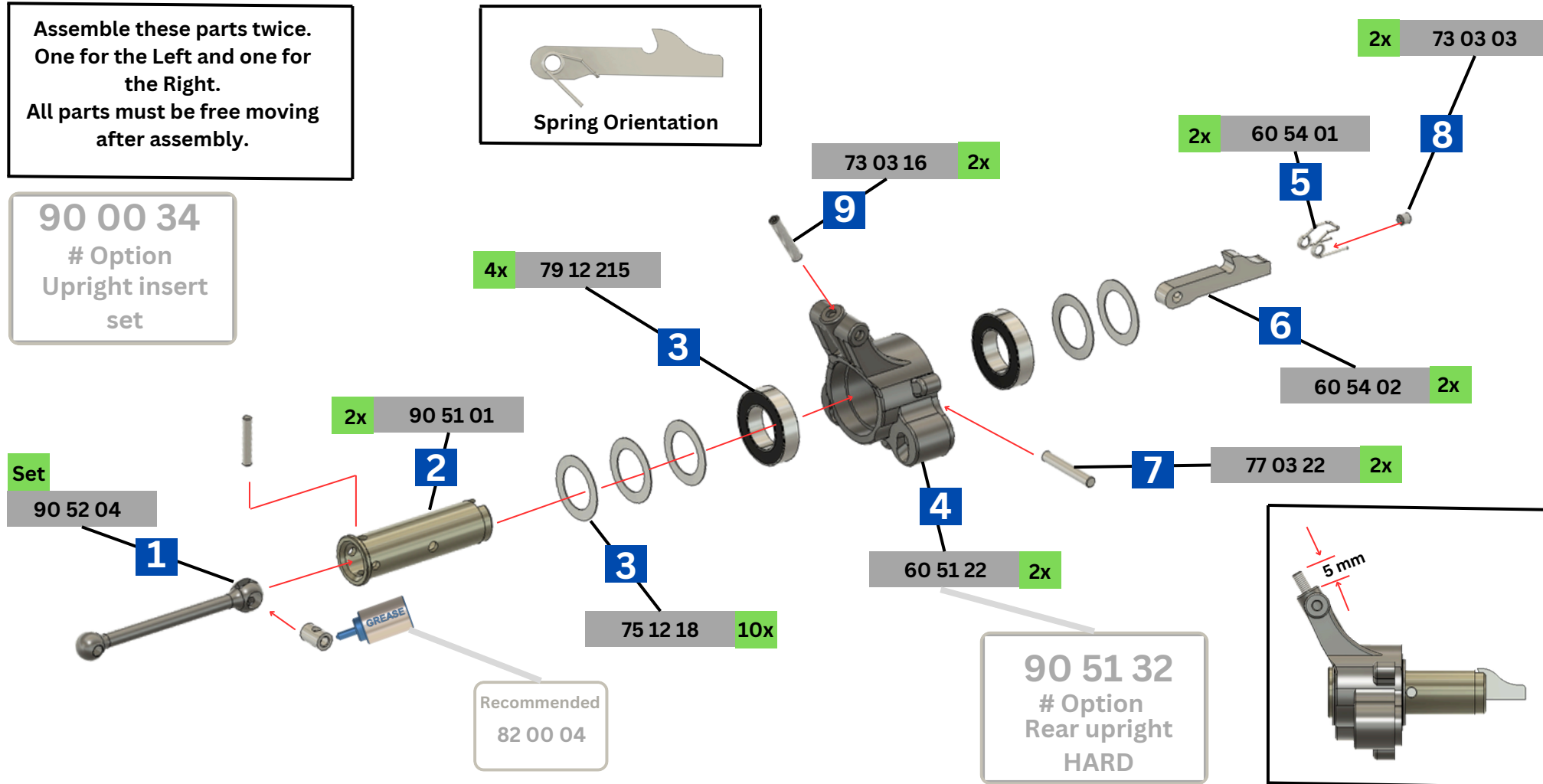
BAG 6

STEP 1

Assemble these parts twice.  
One for the Left and one for the Right.  
All parts must be free moving  
after assembly.



90 00 34  
# Option  
Upright insert  
set



## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 51 22  
60 54 01  
60 54 02  
90 51 01  
90 52 04  
73 03 03  
73 03 16  
75 12 18  
77 03 22  
79 12 215

Rear Upright  
Quickchange lever spring  
Rear Quickchange lever  
Rear wheel axle  
Rear CVD complete  
Set screw M3x3  
Set screw M3x16  
Adjustment shims 12x18x0.3  
Pin 3x22mm  
Bearing 12x21x5

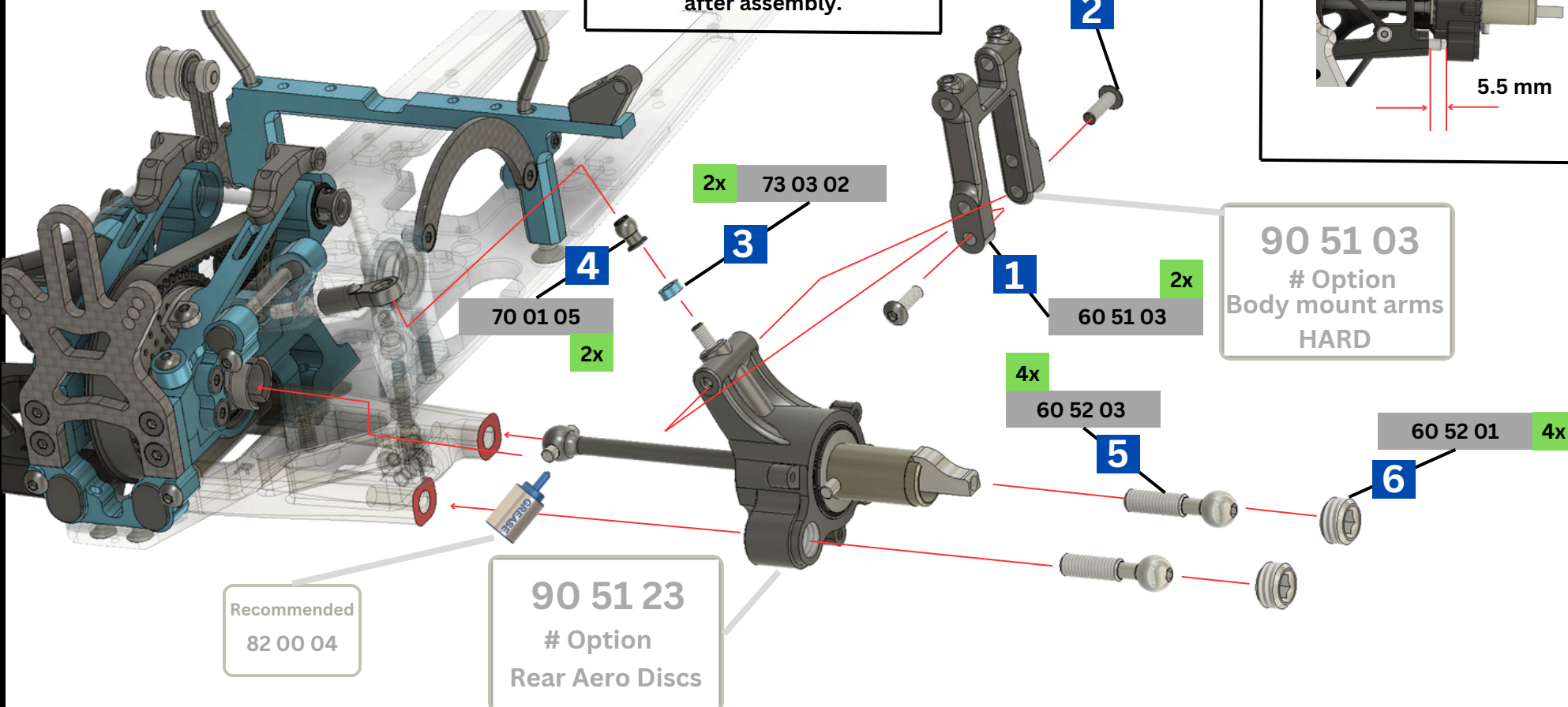
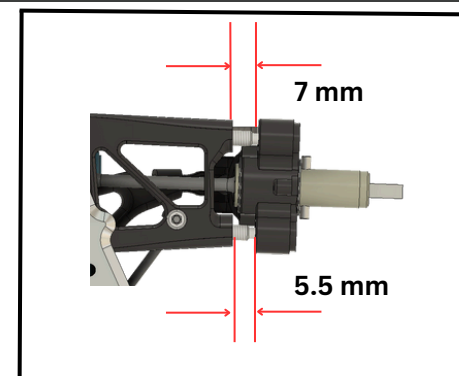
2  
2  
2  
2  
2+2+2  
2  
2  
10  
2  
4

23

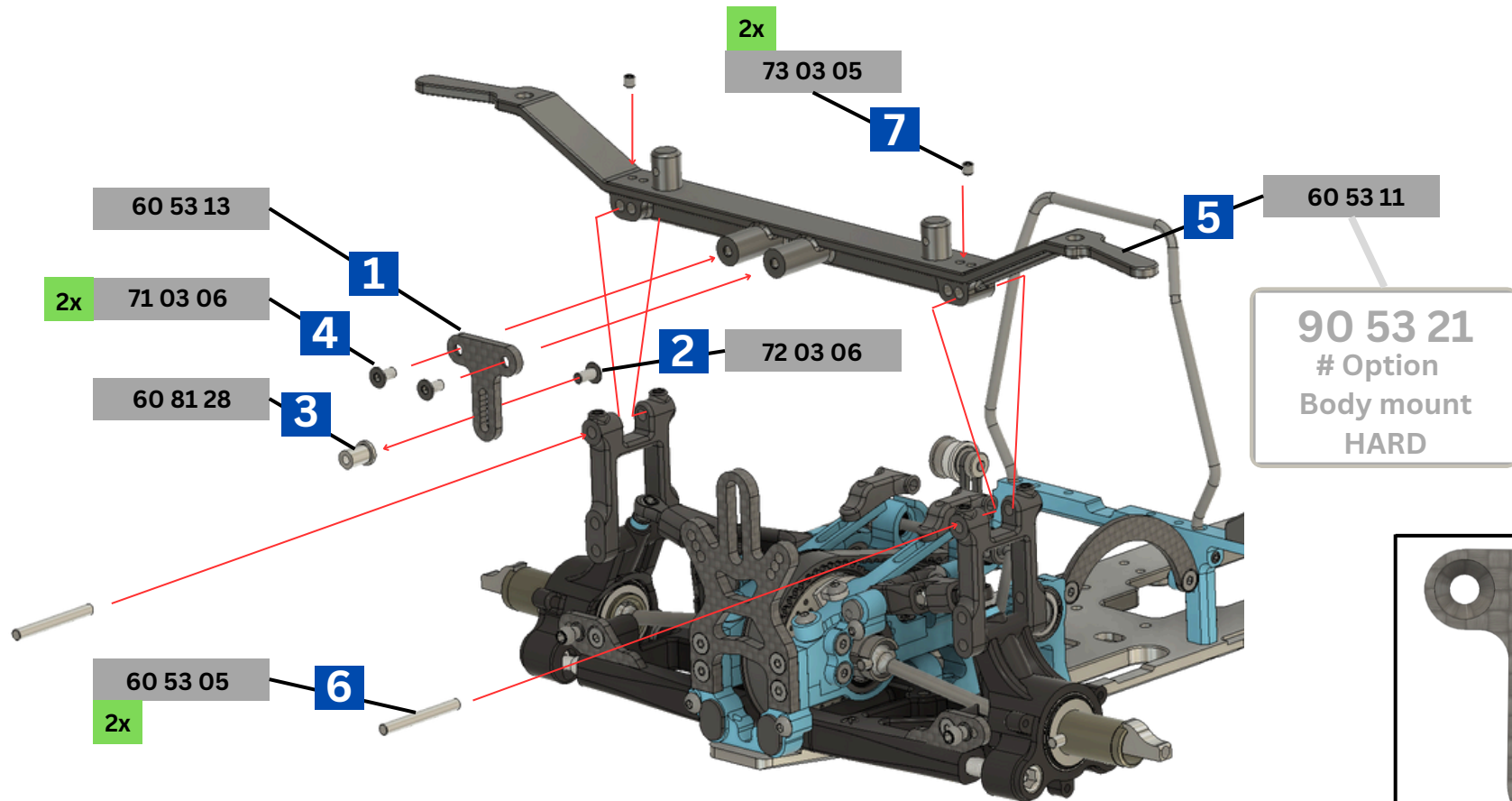
90 51 32  
90 00 34

Rear Upright HARD  
Upright insert set

Assemble these parts TWICE.  
One for the Left and one for the Right.  
All parts must be free moving  
after assembly.



| Part Number | Description                | Amount | Optional Part Number | Description               |
|-------------|----------------------------|--------|----------------------|---------------------------|
| 60 51 03    | Rear Body mount arms       | 2      | 90 51 03             | Rear Body mount arms HARD |
| 60 52 01    | Adjustable pivotball nut   | 4      | BR1009               | Long ally pivotball       |
| 60 52 03    | Pivotball                  | 4      |                      |                           |
| 70 01 05    | Pivotball 4.9mm            | 2      |                      |                           |
| 73 03 10    | Hex Buttonhead screw M3x10 | 4      |                      |                           |
| 73 03 02    | Spacer M3x2                | 2      | 90 51 23             | Rear Aero discs           |

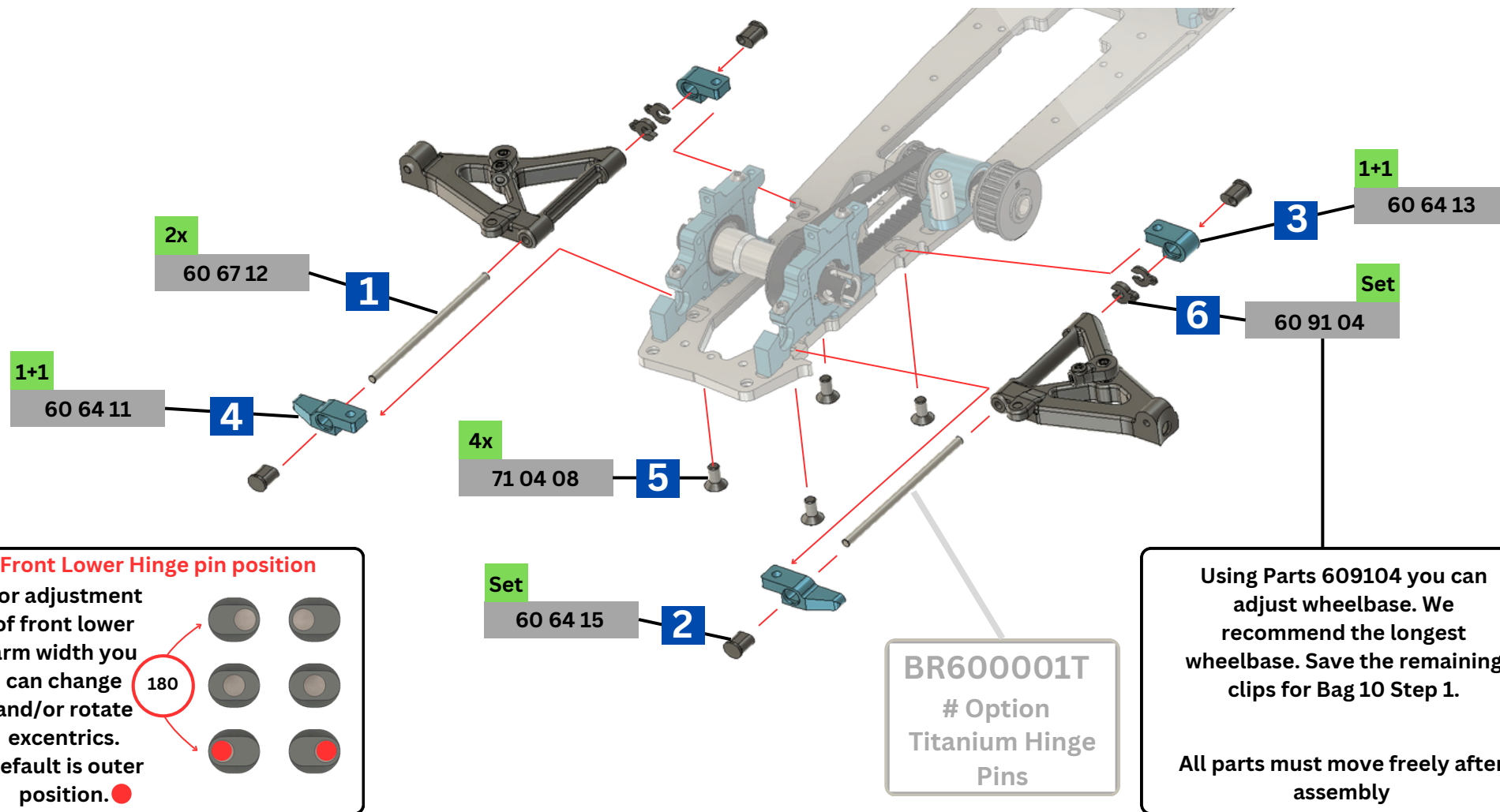


Again..All parts must move feely when assembled

Default Position

| Part Number | Description                | Amount | Optional Part Number  | Description                           |
|-------------|----------------------------|--------|-----------------------|---------------------------------------|
| 60 81 28    | Throttle lever bush        | 1      |                       |                                       |
| 60 53 05    | Body mount hinge pin       | 2      |                       |                                       |
| 60 53 11    | Body mount                 | 1      |                       |                                       |
| 60 53 13    | Centering carbon plate     | 1      |                       |                                       |
| 71 03 06    | Hex Countersunk screw M3x6 | 2      |                       |                                       |
| 72 03 06    | Hex Countersunk screw M3x6 | 2      |                       |                                       |
| 73 03 05    | Set screw M3x5             | 2      |                       |                                       |
|             |                            |        | BR600001T<br>90 53 21 | Titanium Hinge pin<br>Body mount HARD |





## Part Number

## Description

## Amount

## Optional Part Number

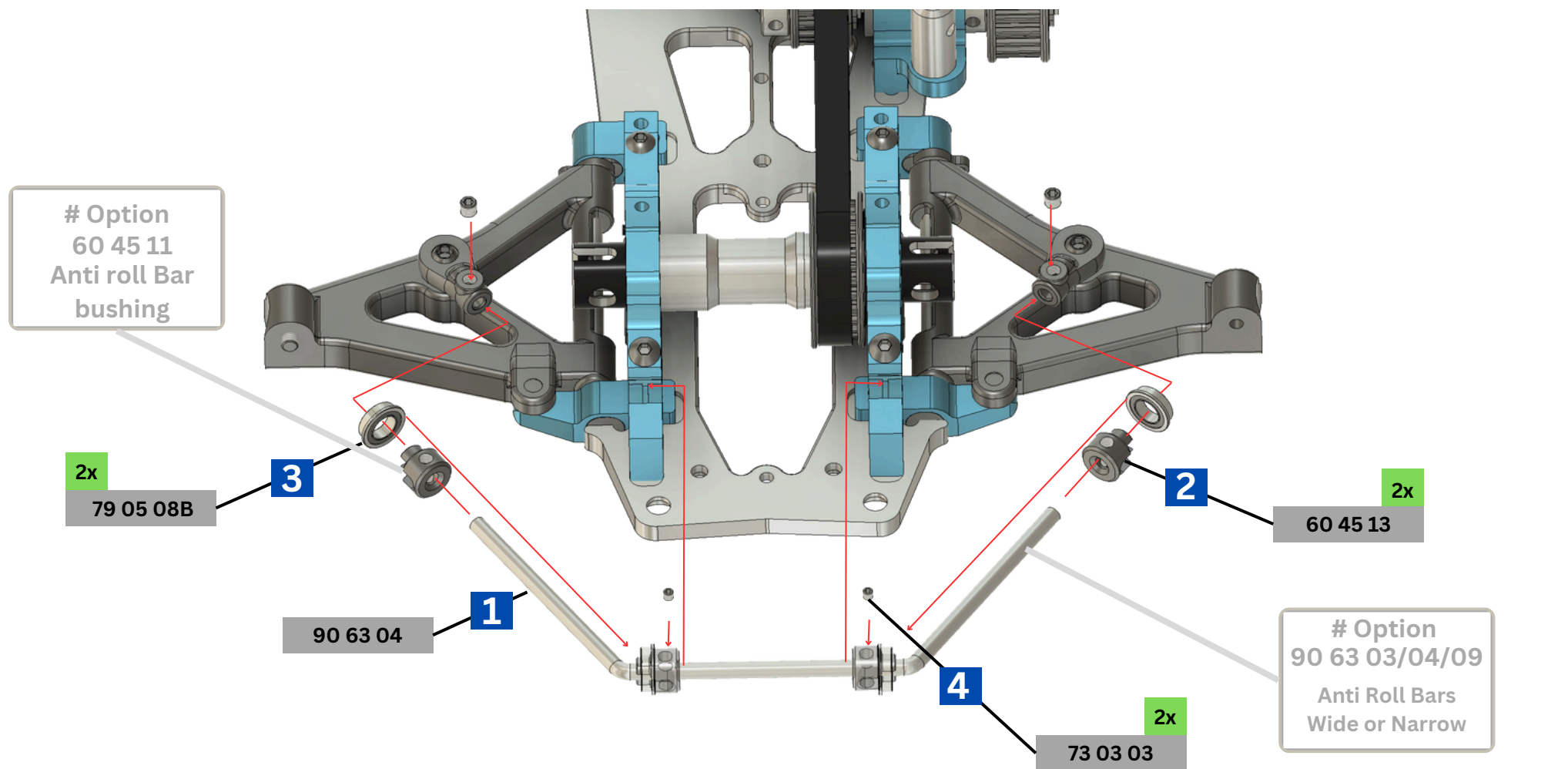
## Description

|          |                            |     |  |  |
|----------|----------------------------|-----|--|--|
| 60 64 11 | Downstop Arm Mount R&L     | 1+1 |  |  |
| 60 64 13 | Hinge Pin Bracket R&L      | 1+1 |  |  |
| 60 64 15 | Lower Excentric Inserts    | Set |  |  |
| 60 67 12 | Lower Front Hinge Pins     | 2   |  |  |
| 60 91 04 | Wheelbase spacer set       | Set |  |  |
| 71 04 08 | Hex Countersunk screw M4x8 | 4   |  |  |

BR600001T

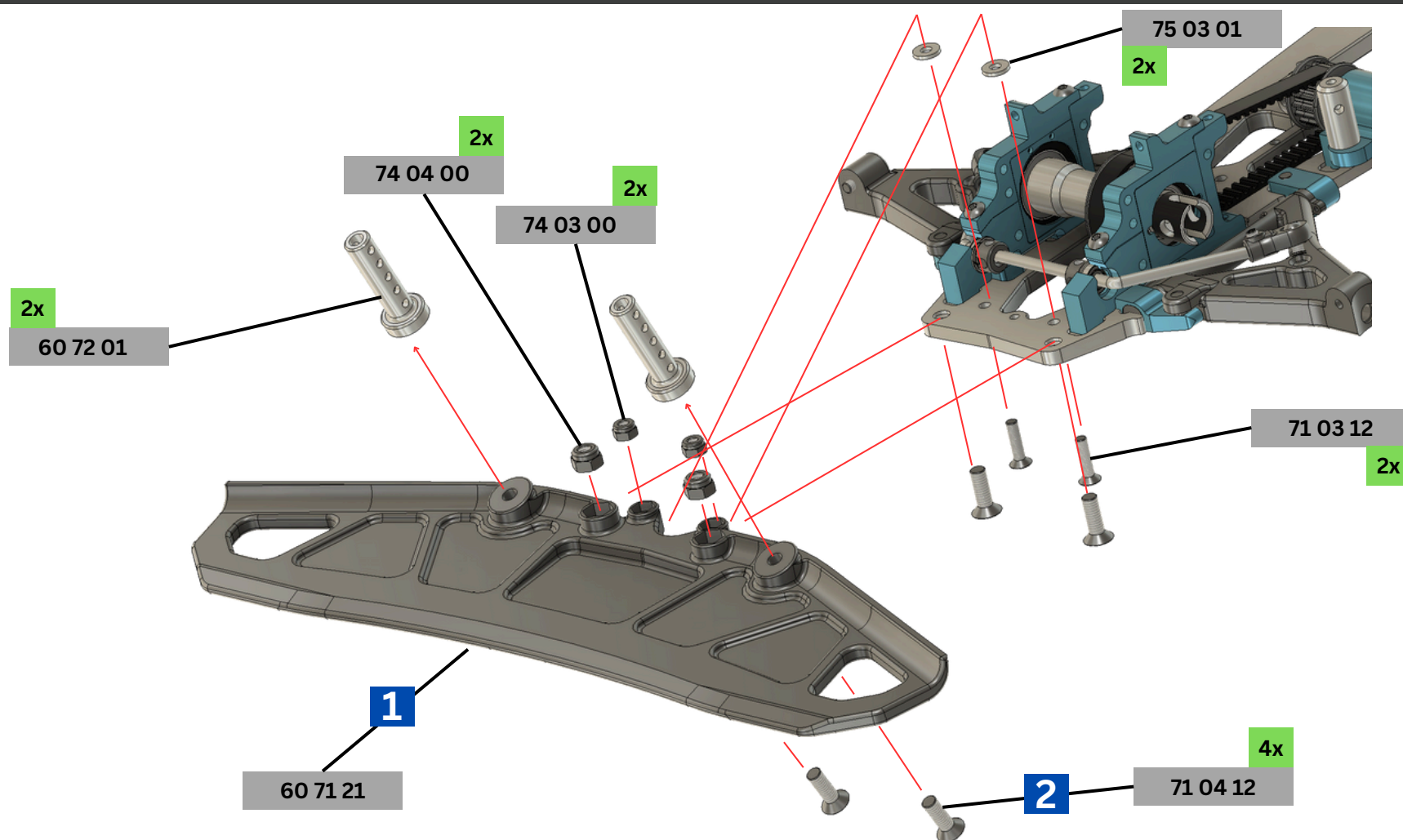
Titanium Hinge Pins





| Part Number | Description                    | Amount | Optional Part Number | Description                               |
|-------------|--------------------------------|--------|----------------------|-------------------------------------------|
| 60 45 13    | Anti-roll bar bushing 2.4mm    | 2      | 60 45 11             | Anti-roll bar bushing 2.6                 |
| 90 63 06W   | Front Anti-roll bar 2.4mm Wide | 1      | 90 63 03/04/09W      | Front Anti-roll bars Wide 2.2 /2.6 /2.3   |
| 73 03 03    | Set screw M3x3                 | 4      | 90 63 03/04/09N      | Front Anti-roll bars Narrow 2.2 /2.6 /2.3 |
| 79 05 08B   | Bearing 5x8x2.5 Flanged        | 2      |                      |                                           |





## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 71 21

Front Bumper

1

90 72 22

Front Bumper Stiffner

60 72 01

Front Body mounts

2

71 03 12

Hex Countersunk screw M3x12

2

71 04 12

Hex Countersunk screw M4x12

4

74 03 00

Self locking nut M3

2

74 04 00

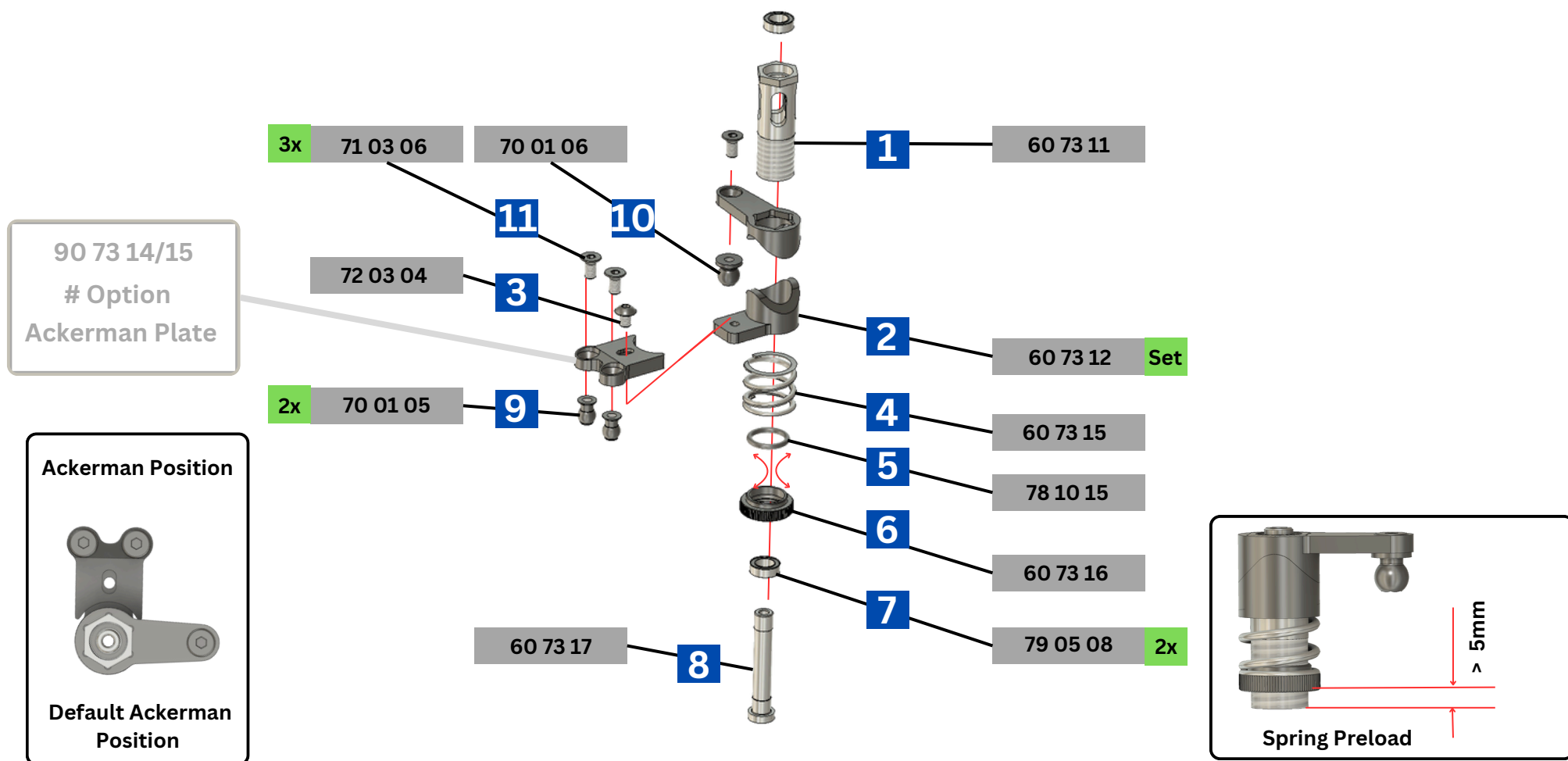
Self locking nut M4

2

75 03 01

Shims M3x1

2



### Part Number

### Description

### Amount

### Optional Part Number

### Description

60 73 11

Servo saver tube

1

60 73 12

Servo saver Upper, lower and Adjuster

1+1+1

60 73 15

Preload spring

1

60 73 16

Preload nut

1

60 73 17

Servo saver mounting Shaft

1

70 01 05

Pivotball 4.9mm

2

70 01 06

Pivotball 6mm

1

71 03 06

Hex Countersunk screw M3x6

3

72 03 04

Hex Buttonhead screw M3x4

1

78 10 15

O-ring 10x1.5

1

79 05 08

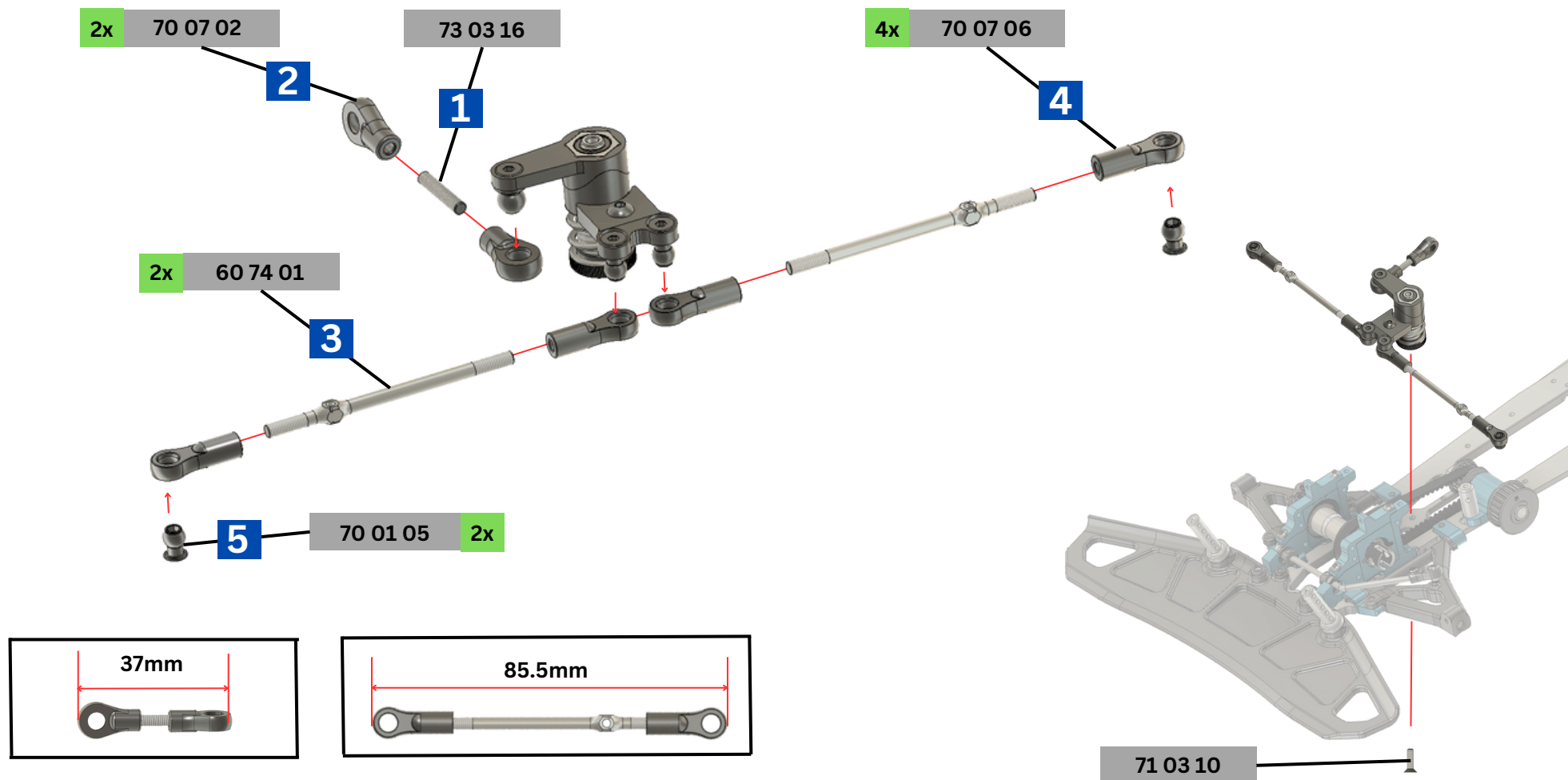
Bearing 5x8x2.5

2

30

90 73 14/15

9 or 10 mm Ackerman plates



## Part Number

## Description

## Amount

## Optional Part Number

## Description

60 74 01

R &amp; L Steering turnbuckle

2

70 01 05

Pivotball 4.9mm

2

70 07 02

Short Ball joint 6mm

2

70 07 06

Long Ball joint 4.9mm

4

71 03 10

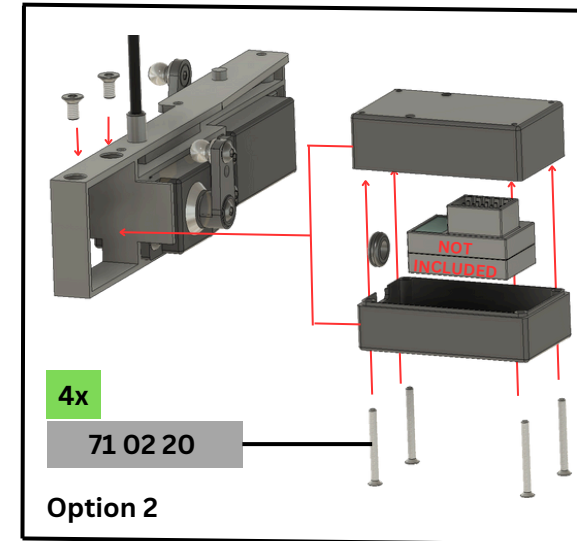
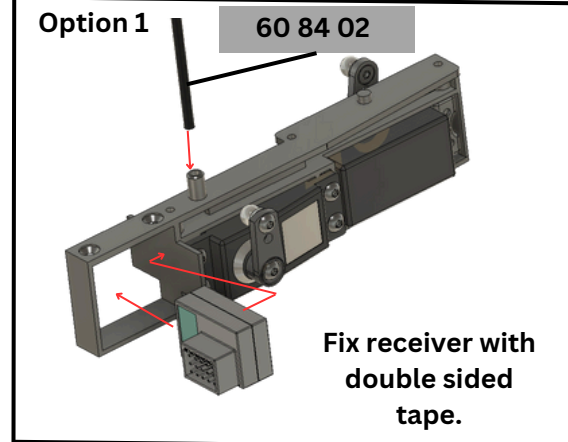
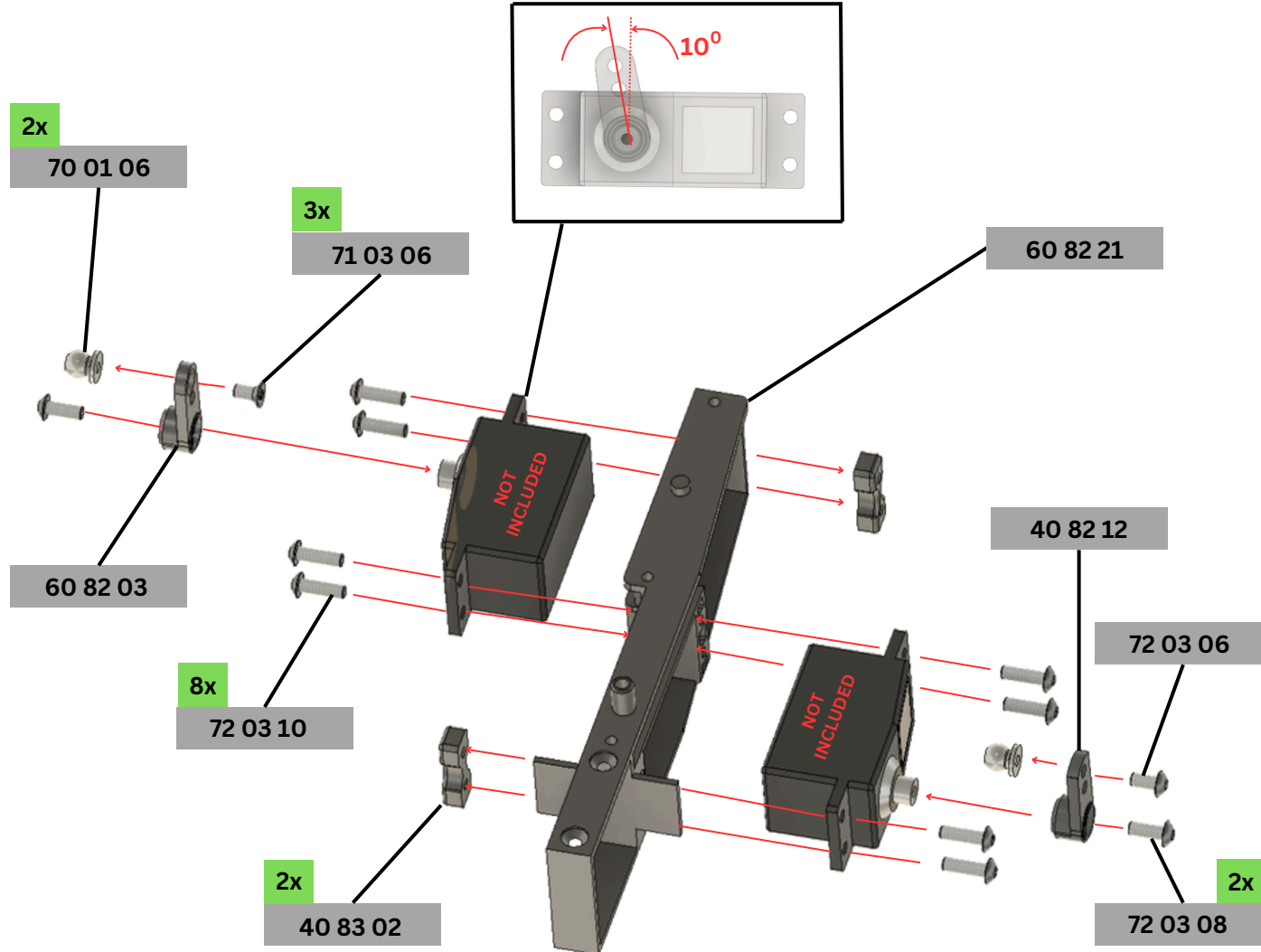
Hex Countersunk screw M3x10

1

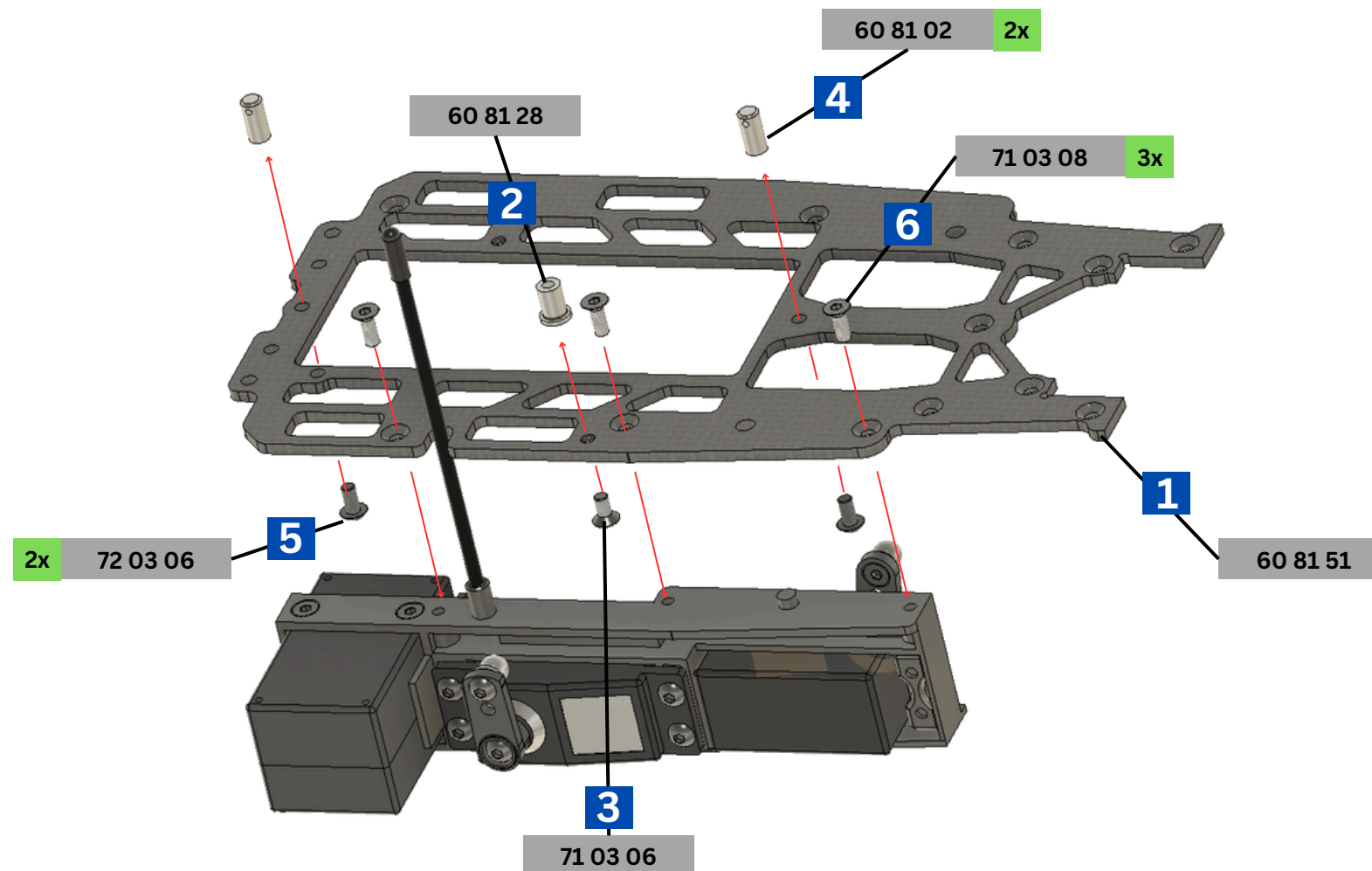
73 03 16

Set screw M3x16

1

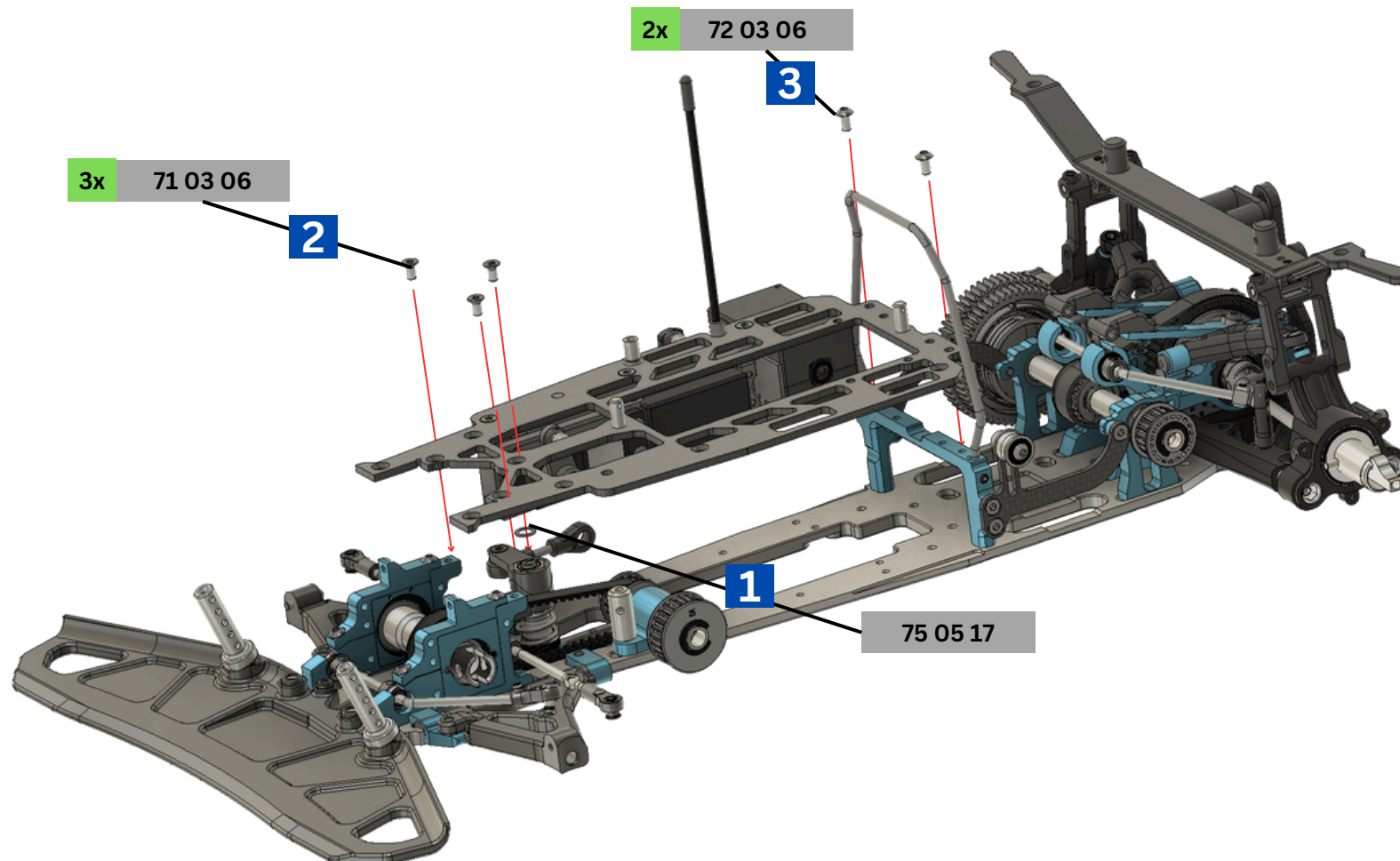


| Part Number | Description                 | Amount  | Optional Part Number | Description |
|-------------|-----------------------------|---------|----------------------|-------------|
| 40 82 03    | Steering Servo arm          | 1       |                      |             |
| 40 83 12    | Throttle servo holder       | 2       |                      |             |
| 60 82 03    | Throttle Servo arm          | 1       |                      |             |
| 60 82 21    | Servo tray                  | 1+1+1+1 |                      |             |
| 60 84 02    | Aerial tube & cap           | 1+1     |                      |             |
| 70 01 06    | Pivotball 6mm               | 2       |                      |             |
| 71 02 20    | Hex Countersunk screw M2x20 | 4       |                      |             |
| 71 03 06    | Hex Countersunk screw M3x6  | 3       |                      |             |
| 72 03 06    | Hex Buttonhead screw M3x6   | 1       |                      |             |
| 72 03 08    | Hex Buttonhead screw M3x8   | 2       |                      |             |
| 72 03 10    | Hex Buttonhead screw M3x10  | 8       |                      |             |



| Part Number | Description                | Amount | Optional Part Number | Description |
|-------------|----------------------------|--------|----------------------|-------------|
| 60 81 02    | Fuel tank mounting pins    | 2      |                      |             |
| 60 81 28    | Throttle Lever bush        | 1      |                      |             |
| 60 81 51    | Radioplate                 | 1      |                      |             |
| 71 03 06    | Hex Countersunk screw M3x6 | 1      |                      |             |
| 71 03 08    | Hex Countersunk screw M3x8 | 3      |                      |             |
| 72 03 06    | Hex Buttonhead screw M3x6  | 2      |                      |             |





## Part Number

## Description

## Amount

## Optional Part Number

## Description

71 03 06

Hex Countersunk screw M3x6

3

72 03 06

Hex Buttonhead screw M3x6

2

75 05 17

Adjustment shim 5x7x0.5

1

90 91 22  
# Option  
HARD

60 91 04

6x 71 03 06

**IMPORTANT**

Using Parts 609104 you can adjust the caster. We recommend 4mm behind the wishbone.

Hinge Pin Default Location Is high with sets screws inserted from underneath.

All parts must move freely after assembly

60 91 24

60 91 03

2x

By removing these 2 screws you create more front flex.

60 91 23

60 91 12 2x

73 03 05 4x

| Part Number | Description                          | Amount | Optional Part Number | Description                     |
|-------------|--------------------------------------|--------|----------------------|---------------------------------|
| 60 91 03    | Front upper hinge pins               | 2      | BR600001T            | Titanium Front upper hinge pins |
| 60 91 04    | Caster spacer set                    | 1      |                      |                                 |
| 60 91 12    | Front upper wishbone                 | 2      | 90 91 22             | Front upper wishbone Hard       |
| 60 91 23    | Front upper suspension bracket Left  | 1      |                      |                                 |
| 60 91 24    | Front upper suspension bracket Right | 1      |                      |                                 |
| 71 03 06    | Hex Countersunk screw M3x6           | 6      |                      |                                 |
| 73 03 05    | Set screw M3x5                       | 4      |                      |                                 |

# Front Hubs

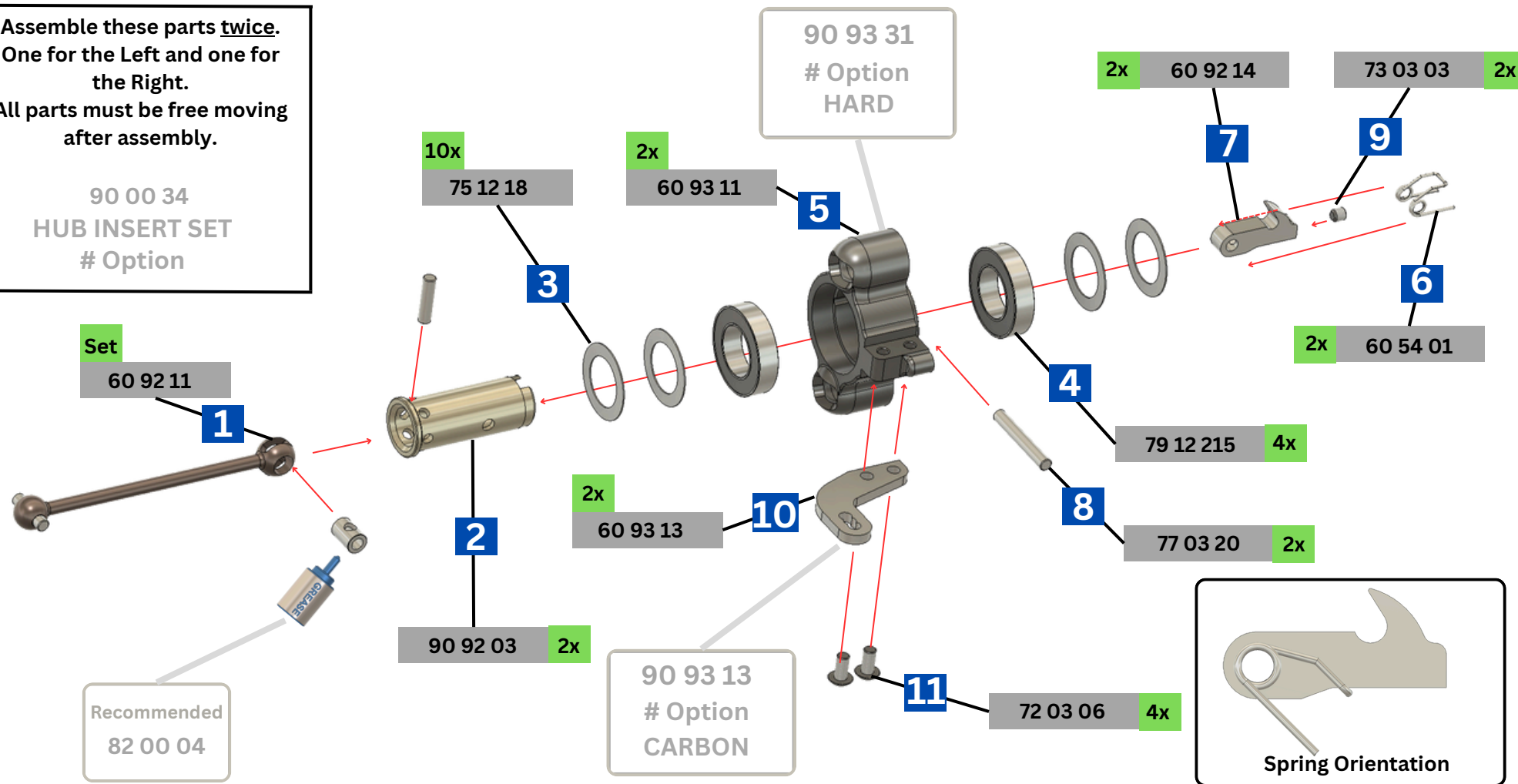
# VELOX 8.3

BAG 10

STEP 2

Assemble these parts twice.  
One for the Left and one for  
the Right.  
All parts must be free moving  
after assembly.

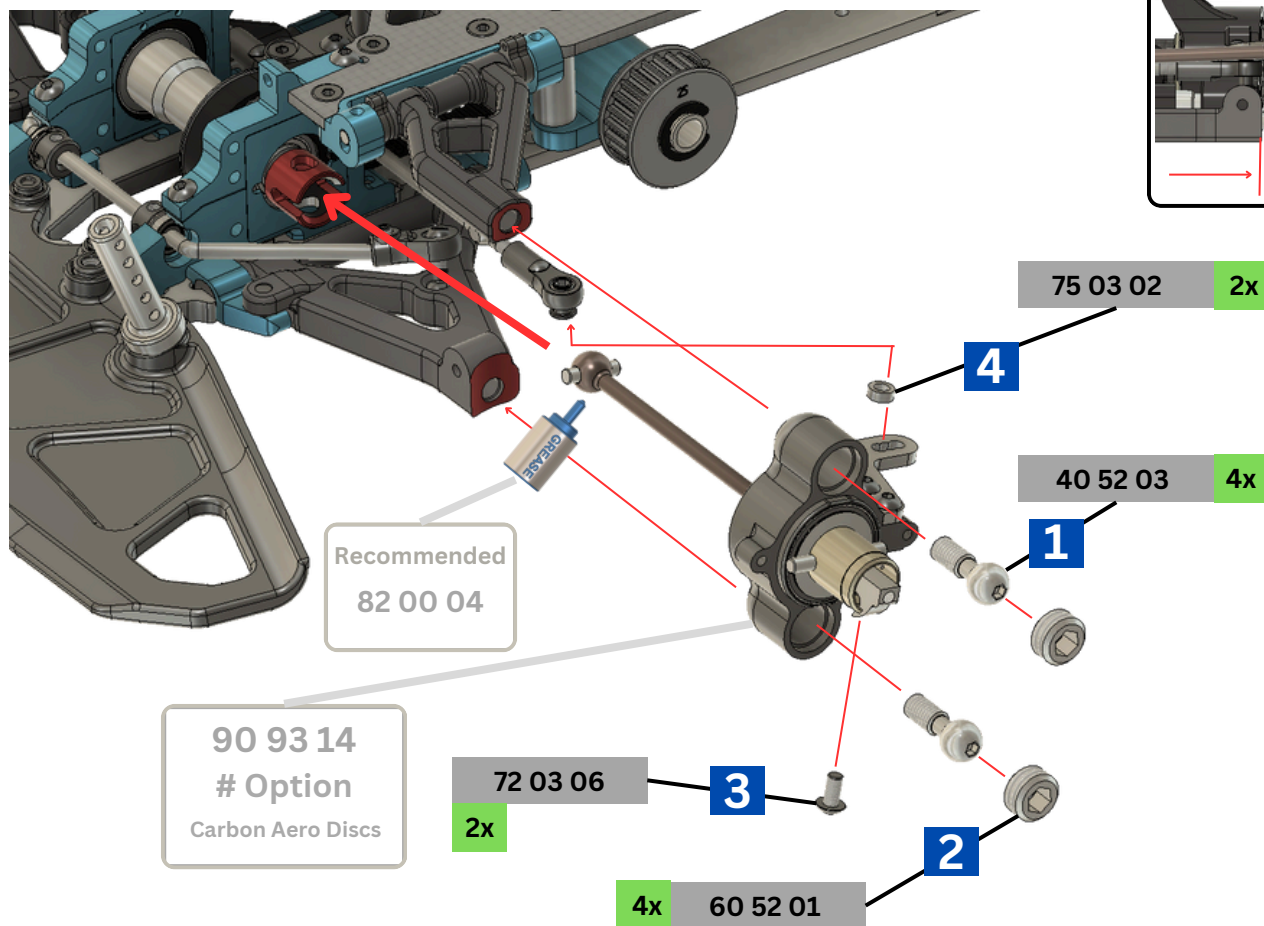
90 00 34  
HUB INSERT SET  
# Option



| Part Number | Description                | Amount | Optional Part Number | Description         |
|-------------|----------------------------|--------|----------------------|---------------------|
| 60 54 01    | Quick change lever springs | 2      |                      |                     |
| 60 92 11    | Front driveshaft complete  | 2+2+2  |                      |                     |
| 60 92 14    | Front Quick change lever   | 2      |                      |                     |
| 60 93 11    | Front Upright              | 2      |                      |                     |
| 60 93 13    | Steering Arm               | 2      | 90 93 31             | Front Upright Hard  |
| 90 92 03    | Front Wheel axle           | 2      | 90 93 13             | Steering Arm Carbon |
| 72 03 06    | Hex Buttonhead screw M3x6  | 4      |                      |                     |
| 73 03 03    | Set screw M3x3             | 2      |                      |                     |
| 75 12 18    | Adjustment shims 12x18x0.3 | 10     |                      |                     |
| 77 03 20    | Pin 3x20mm                 | 2      |                      |                     |
| 79 12 215   | Bearing 12x21x5            | 4      |                      |                     |
|             |                            |        | 90 00 34             | Upright insert set  |

**REMEMBER**

Assemble these parts twice. One for the Left and one for the Right.  
All parts must be free moving after assembly.



## Part Number

## Description

## Amount

## Optional Part Number

## Description

40 52 03

Pivotball

4

BR1008

Ally Pivotball

60 52 01

Pivotball adjustment nut

4

72 03 06

Hex Buttonhead screw M3x6

2

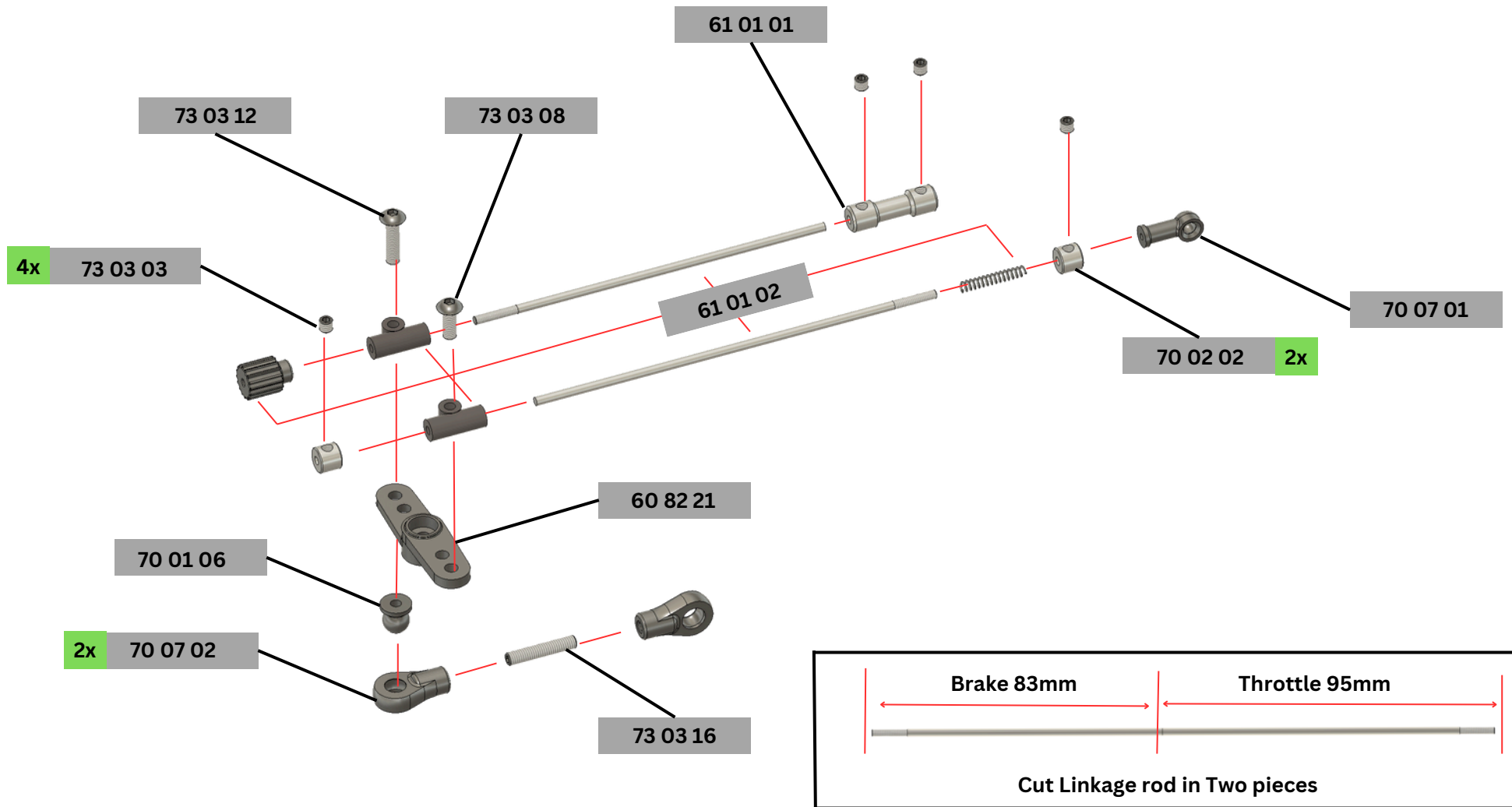
75 03 02

Shim M3x2

2

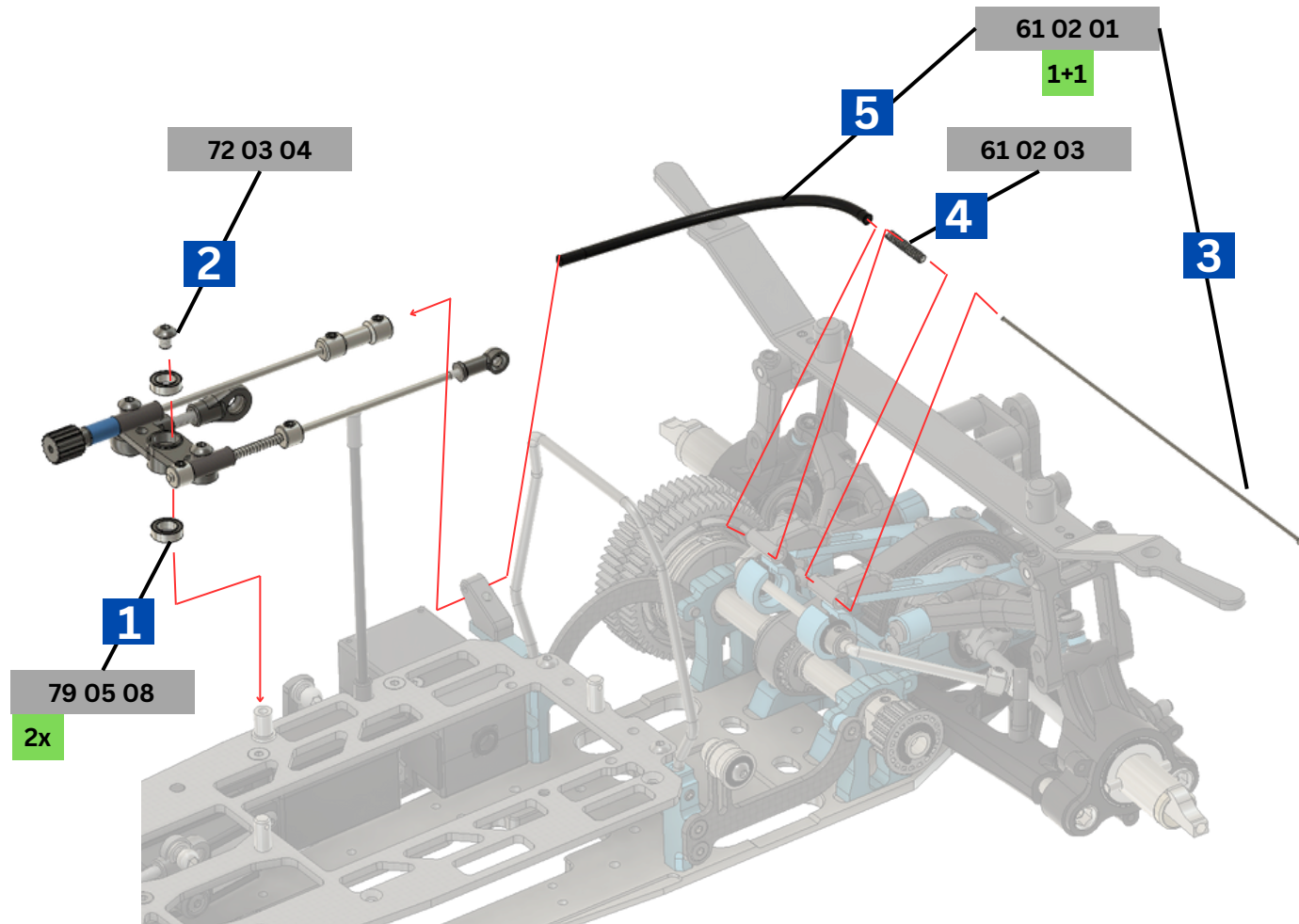
90 93 14

Front Carbon Aero Discs



| Part Number | Description                | Amount  | Optional Part Number | Description |
|-------------|----------------------------|---------|----------------------|-------------|
| 60 82 21    | Throttle servo arm         | 1       |                      |             |
| 61 01 01    | Brake wire coupling        | 1       |                      |             |
| 61 01 02    | Brake/Throttle Linkage set | 1+2+1+1 |                      |             |
| 70 01 06    | Pivot ball 6mm             | 1       |                      |             |
| 70 02 02    | Collet 2mm                 | 2       |                      |             |
| 70 07 01    | Carburetor Ball joint      | 1       |                      |             |
| 70 07 02    | Short Ball joint 6mm       | 2       |                      |             |
| 73 03 08    | Hex Buttonhead screw M3x8  | 1       |                      |             |
| 73 03 12    | Hex Buttonhead screw M3x12 | 1       |                      |             |
| 73 03 03    | Set screw M3x3             | 4       |                      |             |
| 73 03 16    | Set screw M3x16            | 1       |                      |             |





### IMPORTANT

When Adjusting Braking force, please make sure when brake is released that the drivetrain is free to rotate. If not you will reduce the life of the belts significantly

#### Part Number

#### Description

#### Amount

#### Optional Part Number

#### Description

61 02 01

Brake cable & sleeve

1+1

61 02 03

Brake release spring

1

79 05 08

Bearing 5x8x2.5

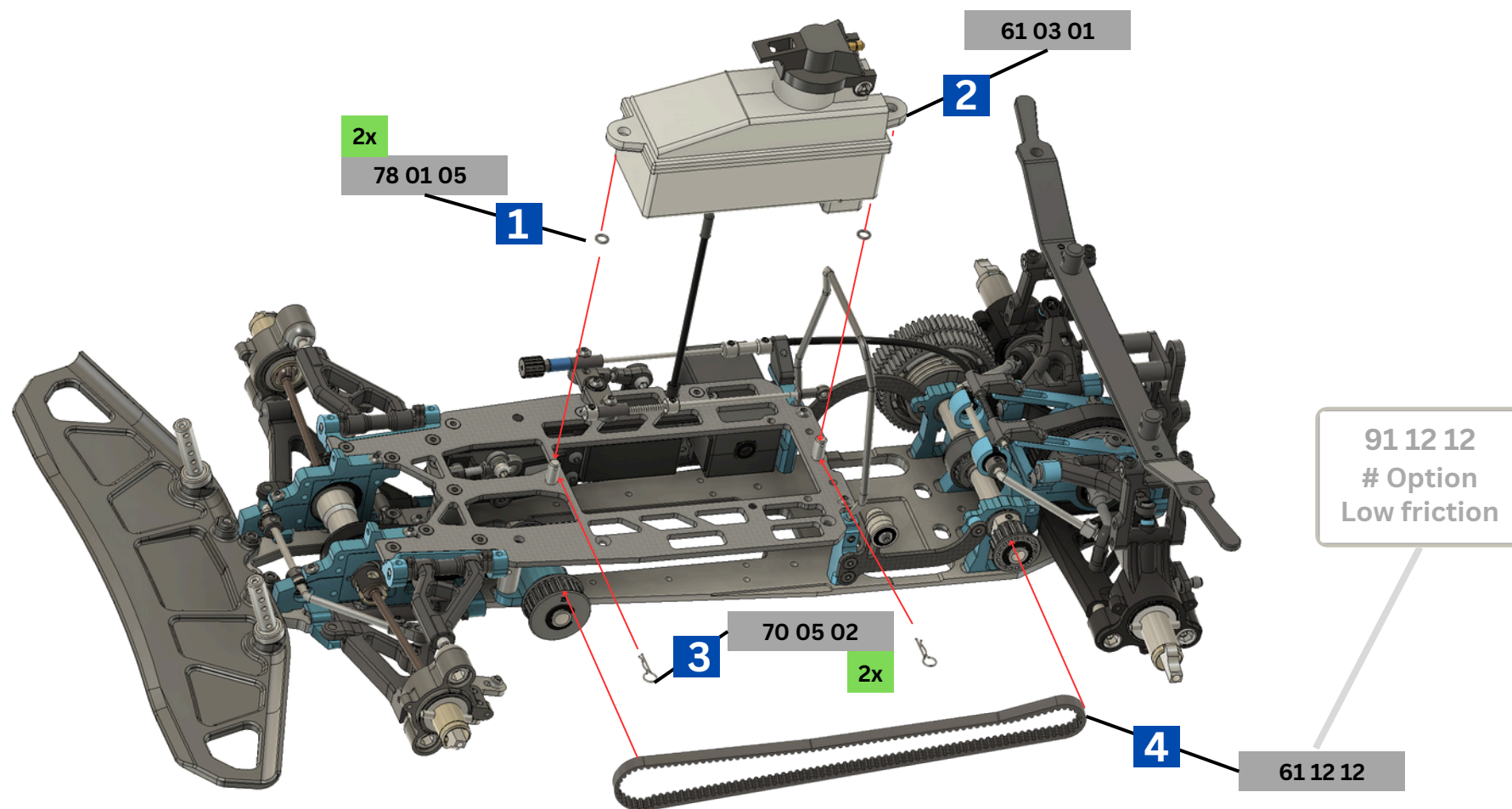
2

72 03 04

Hex Buttonhead screw M3x4

1





## Part Number

## Description

## Amount

## Optional Part Number

## Description

61 03 01

Fuel Tank

1

78 01 05

Tank seating O-ring

2

70 05 02

Tank retaining clip

2

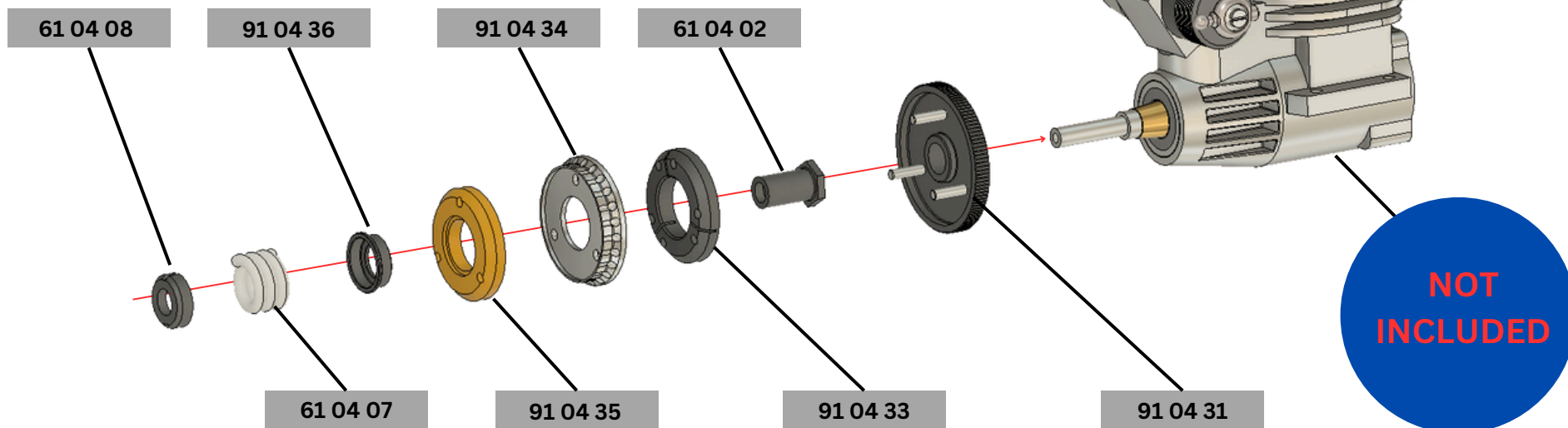
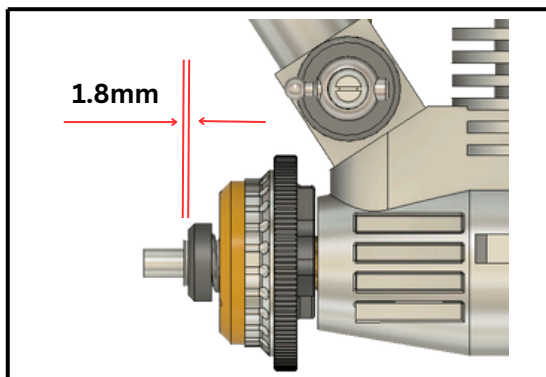
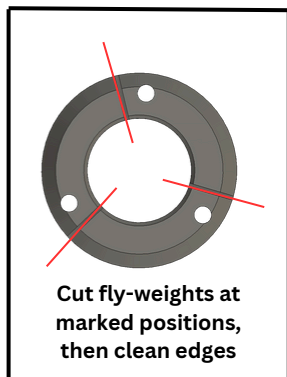
61 12 12

Middle Drive belt

1

91 12 12

Low Friction middle belt



## Part Number

## Description

## Amount

## Optional Part Number

## Description

61 04 02

Flywheel nut

1

61 04 07

Clutch spring

1

61 04 08

Spring adjustment nut

1

91 04 31

Flywheel

1

91 04 33

Fly-weights

1

91 04 34

Clutch pressure plate

1

91 04 35

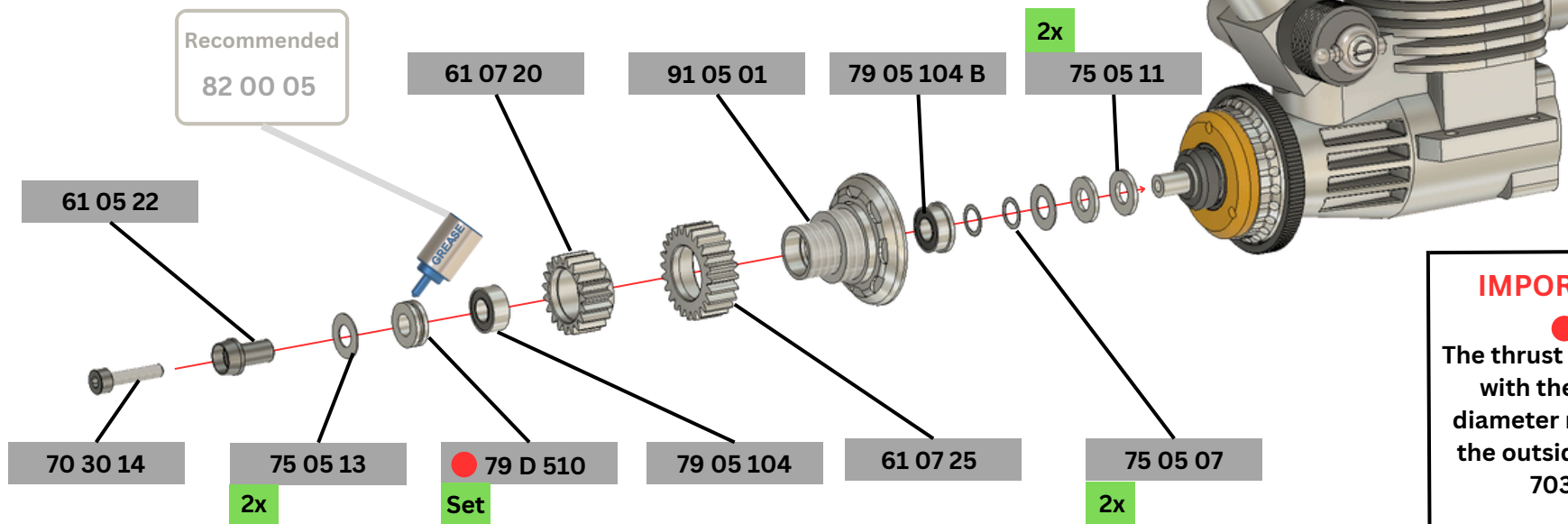
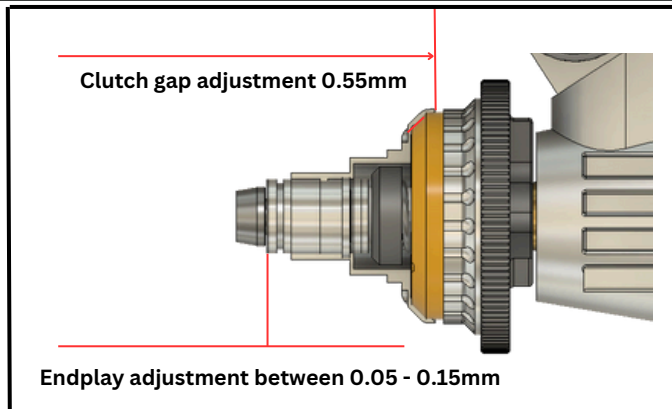
Clutch shoe yellow

1

91 04 36

Clutch spring cup

1

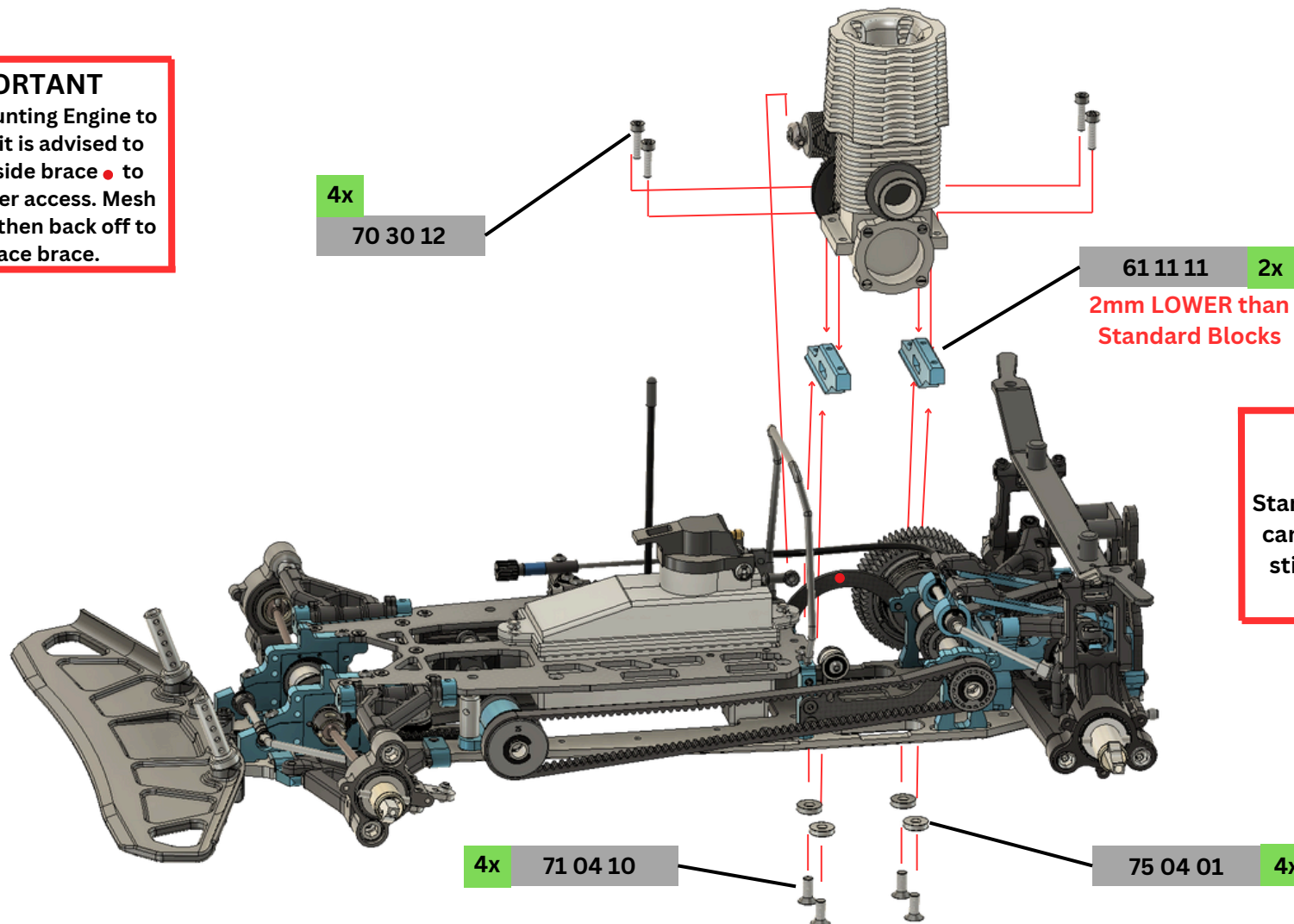
**IMPORTANT**

The thrust washer disc with the smaller diameter must be on the outside towards 703014

| Part Number | Description                   | Amount | Optional Part Number | Description         |
|-------------|-------------------------------|--------|----------------------|---------------------|
| 61 05 22    | Thrust bearing support collar | 1      |                      |                     |
| 61 07 20    | First Gear pinion. 20T        | 1      |                      |                     |
| 61 07 25    | Second Gear pinion. 25T       | 1      | 61 07 18 61 07 19    | First Gear 18T 19T  |
| 70 30 14    | Hex Socket screw M3x14        | 1      | 61 07 23 61 07 24    | Second Gear 23T 24T |
| 75 05 07    | Adjustment shims 5x7x0.1mm    | 2      |                      |                     |
| 75 05 11    | Adjustment shims 5x7x1.0mm    | 2      |                      |                     |
| 75 05 13    | Adjustment shims 5x7x0.3mm    | 2      |                      |                     |
| 79 05 104   | Bearing 5x10x4                | 1      |                      |                     |
| 79 05 104 B | Flange Bearing 5x10x4         | 1      |                      |                     |
| 79 D 510    | Thrust bearing                | 2      |                      |                     |
| 91 05 01    | VCC Clutch Bell               | 1      |                      |                     |

**IMPORTANT**

When Mounting Engine to Chassis, it is advised to remove side brace • to allow easier access. Mesh the gears then back off to replace brace.

**IMPORTANT**

Standard Engine blocks cannot be used if side stiffeners are in place

## Part Number

## Description

## Amount

## Optional Part Number

## Description

61 11 11

Engine Blocks

2

61 11 01

Standard Engine Blocks

70 30 12

Hex socket screw M3x12

4

51 11 11

Brass Standard Engine Blocks

71 04 10

Hex Countersunk screw M4x10

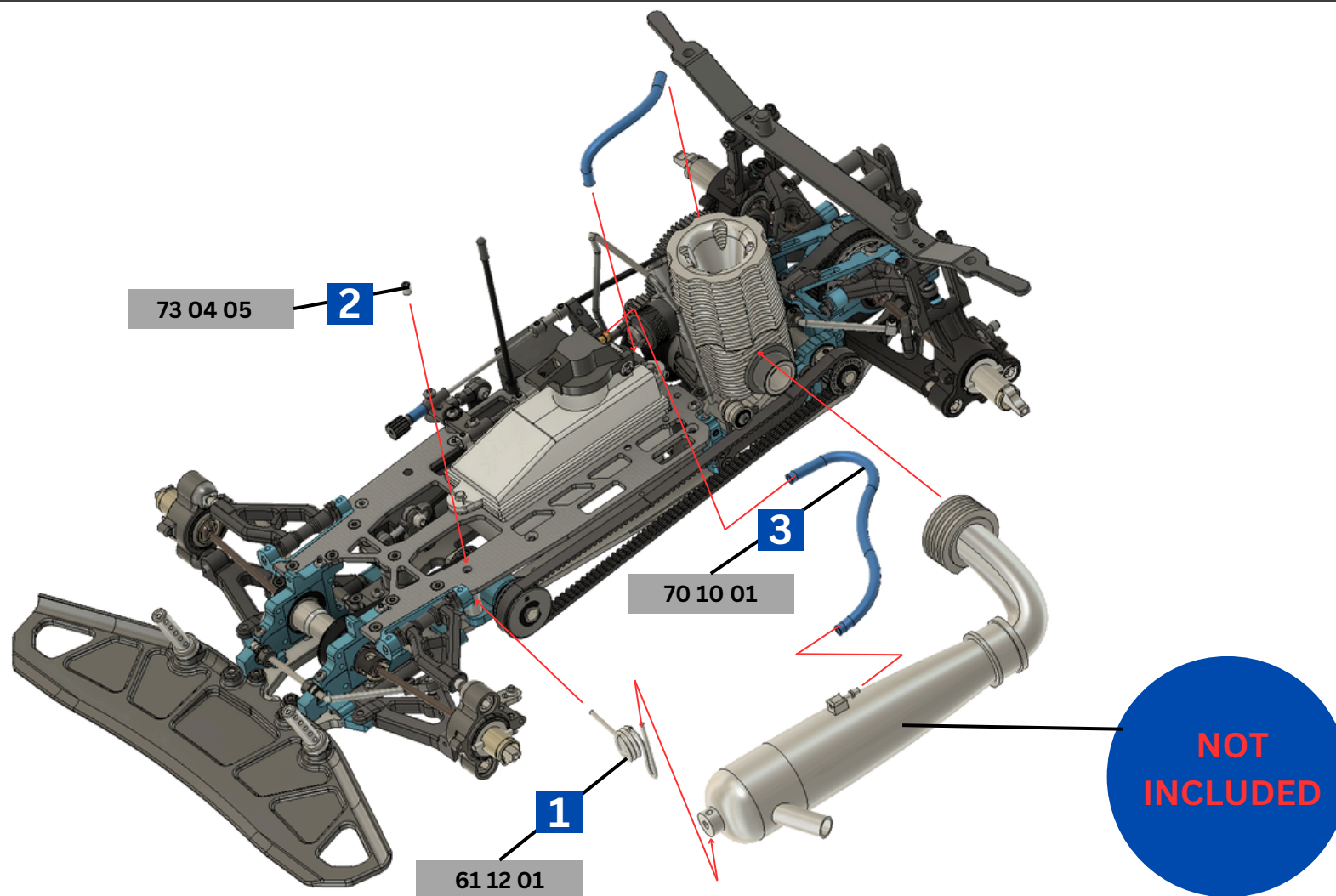
4

75 04 01

Countersunk washer M4

4





## Part Number

## Description

## Amount

## Optional Part Number

## Description

61 12 01

Pipe Spring

1

70 10 01

Fuel tube

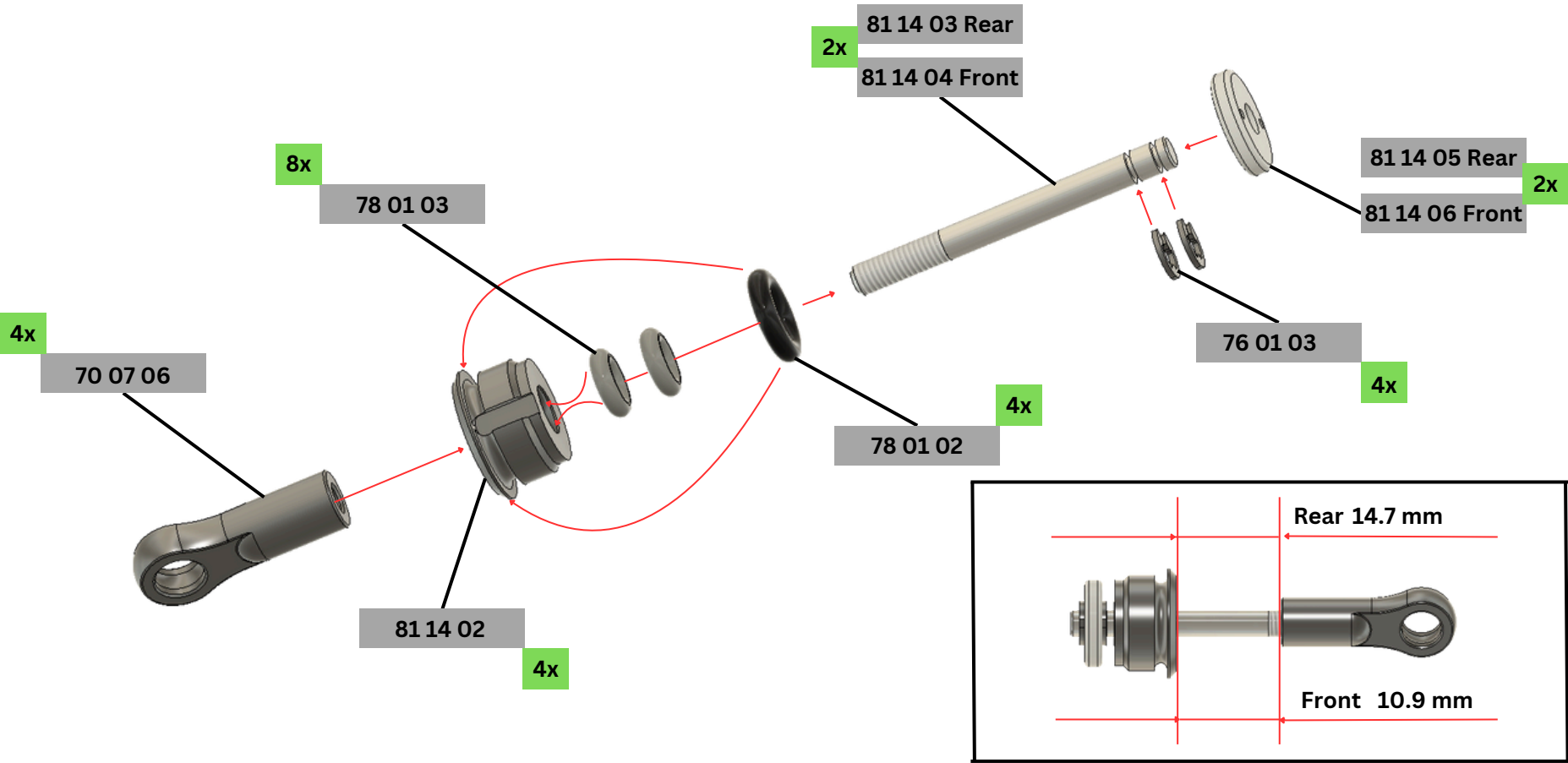
1

73 04 05

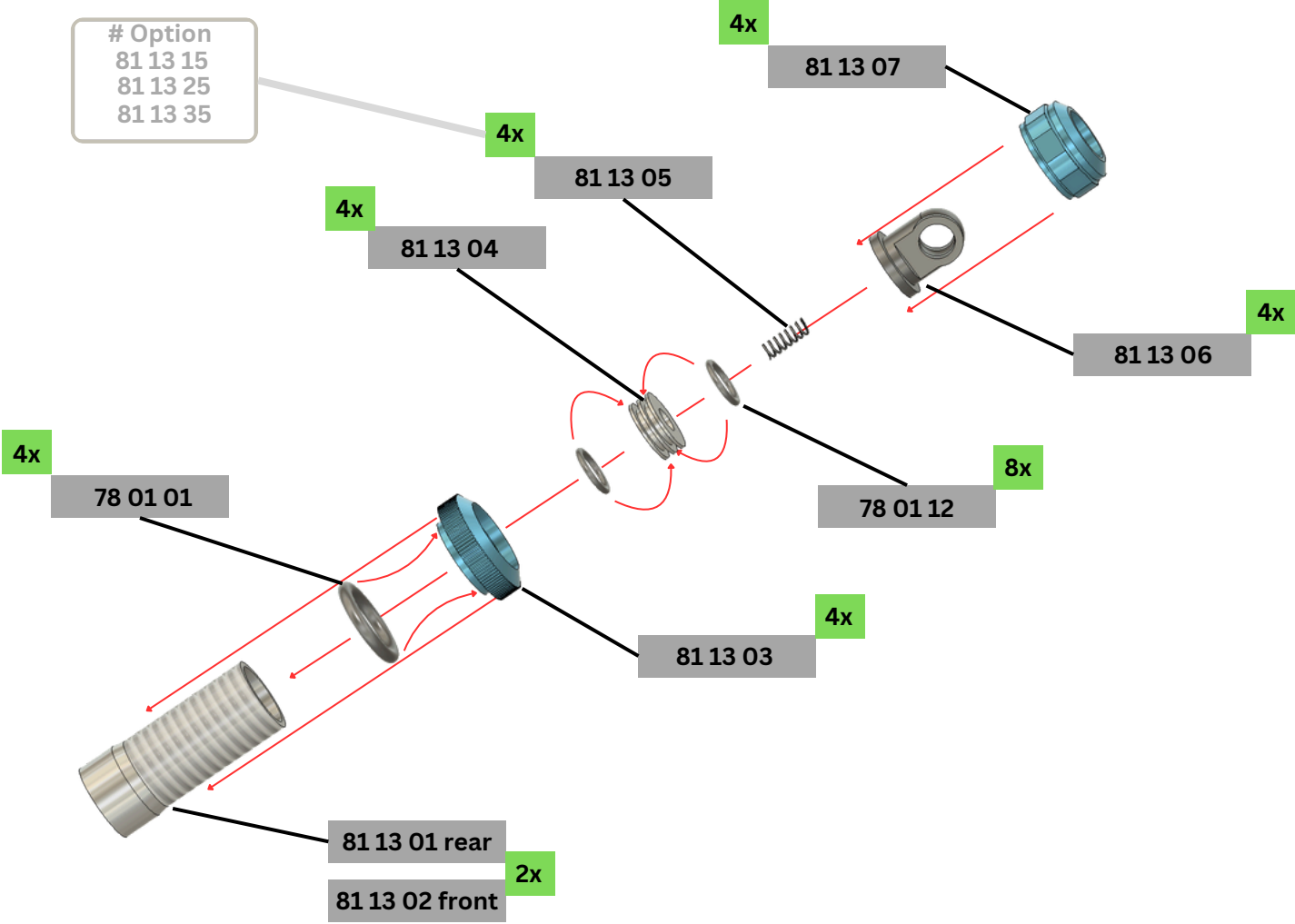
Set screw M4x5

1





| Part Number | Description            | Amount | Optional Part Number | Description          |
|-------------|------------------------|--------|----------------------|----------------------|
| 70 07 06    | Balljoint 4.9 mm Long  | 4      |                      |                      |
| 76 01 03    | Circlip 3 mm           | 8      |                      |                      |
| 78 01 02    | O-Ring Floating Piston | 4      |                      |                      |
| 78 01 03    | O-Ring Piston Rod      | 8      |                      |                      |
| 81 14 02    | Shock Bottom Screw     | 4      |                      |                      |
| 81 14 03    | Piston Rod Long        | 2      |                      |                      |
| 81 14 04    | Piston Rod Short       | 2      |                      |                      |
| 81 14 05    | Piston 2-Hole 1 mm     | 2      | 81 14 07             | Piston 3-Hole 1.0 mm |
| 81 14 06    | Piston 1-Hole 1 mm     | 2      | 81 14 15             | Piston 2-Hole 1.2 mm |
|             |                        |        | 81 14 16             | Piston 1-Hole 1.2 mm |



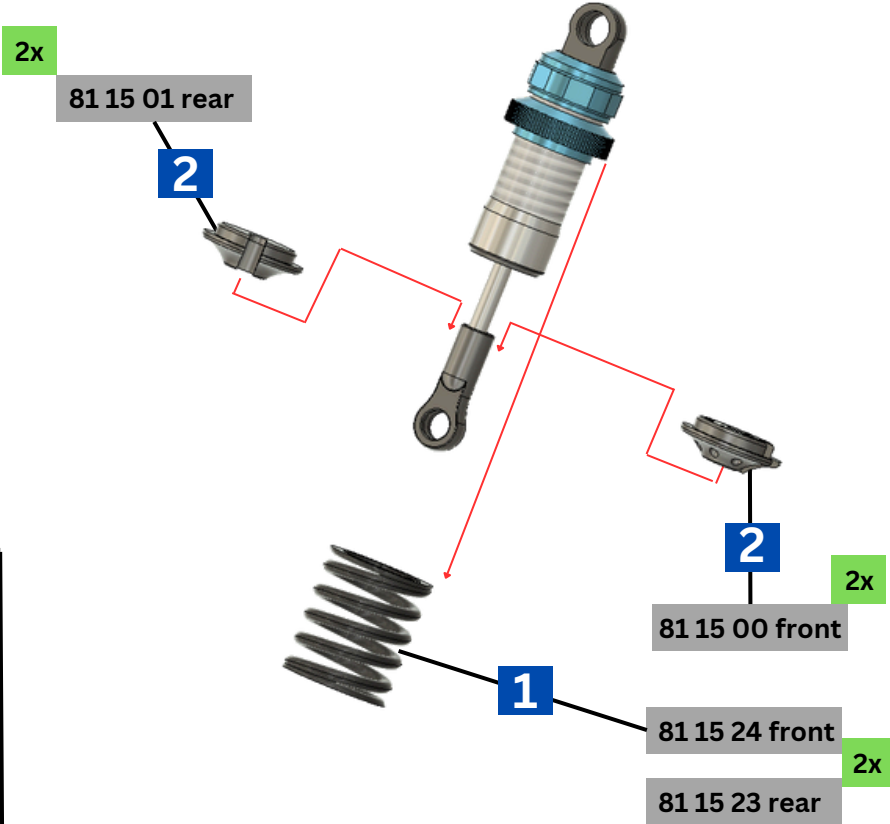
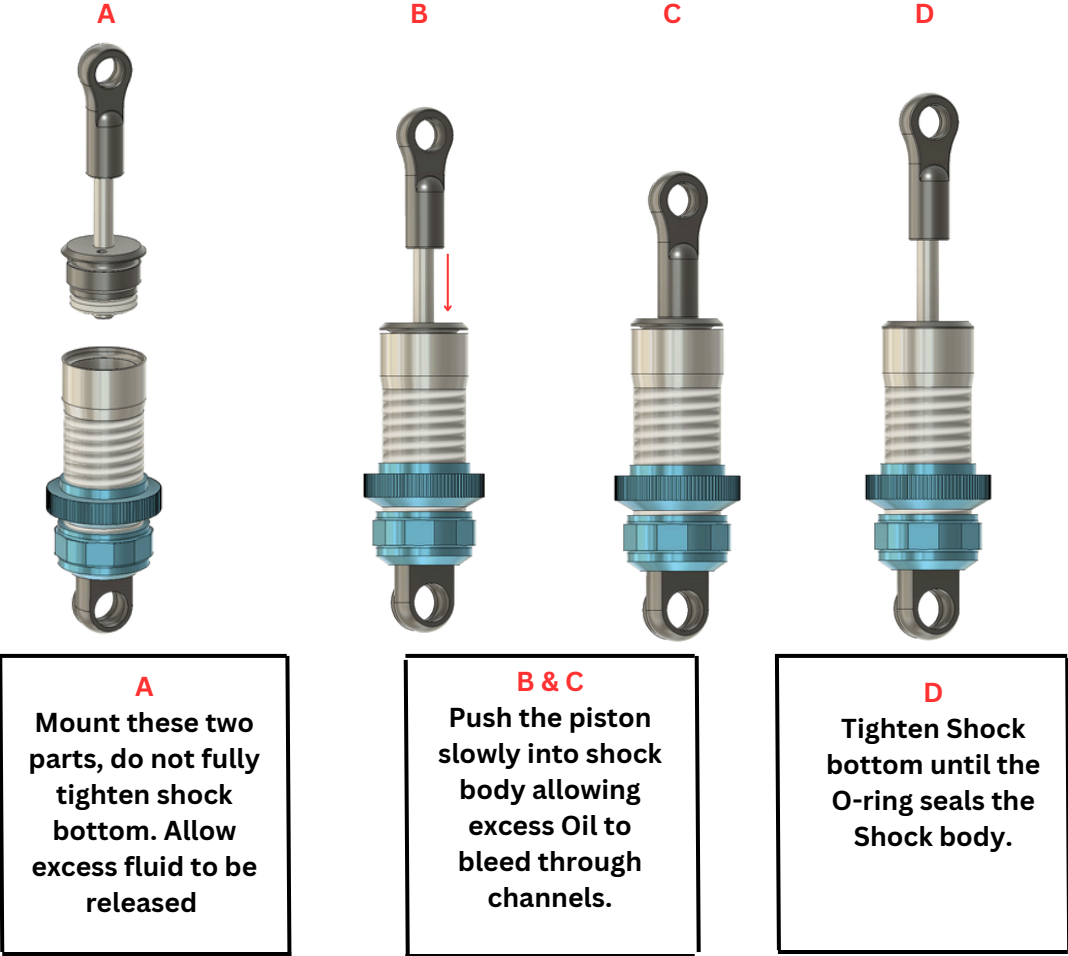
**DEFAULT**

OIL 650 cSt

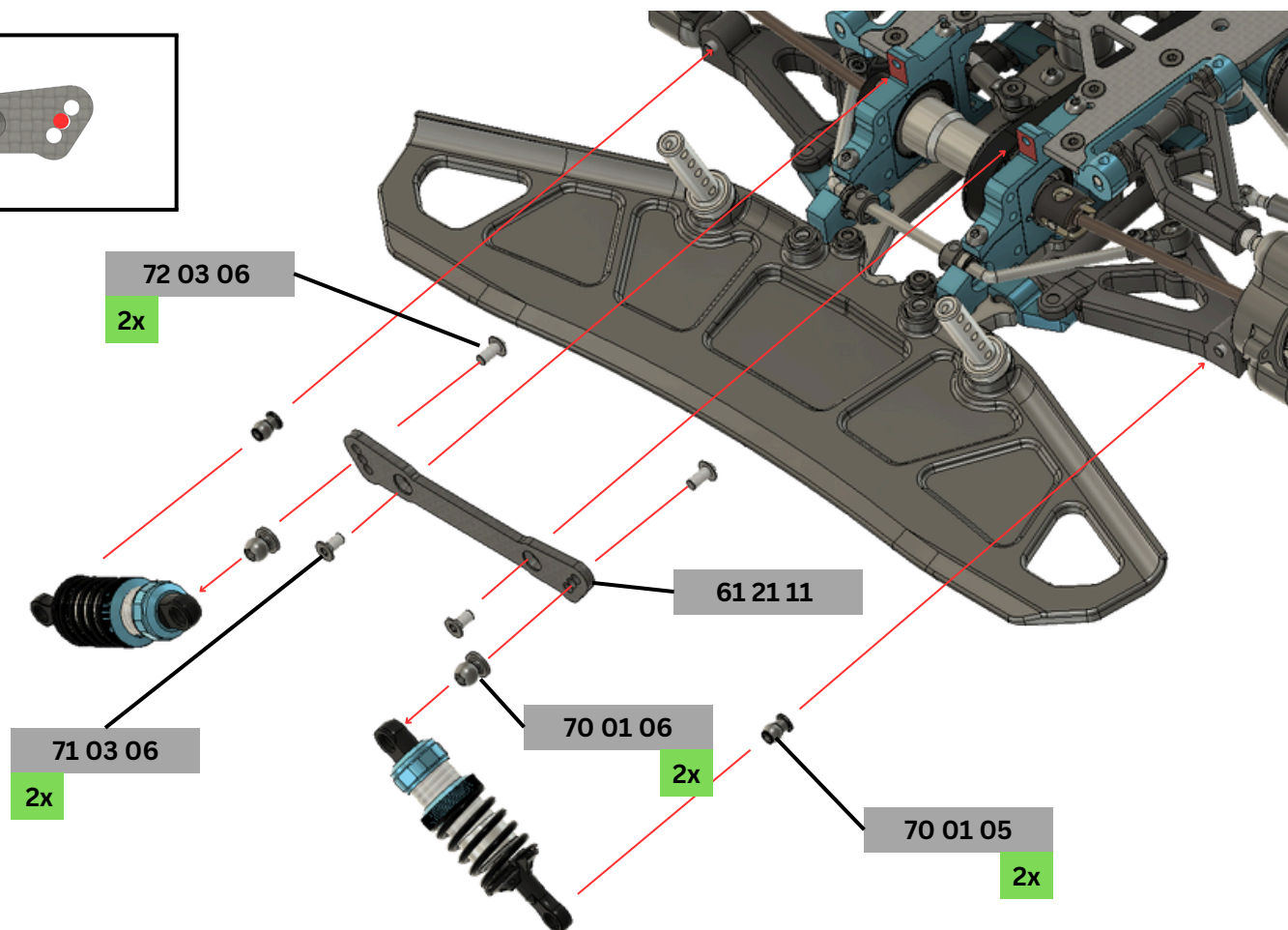
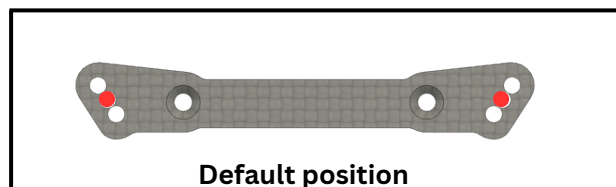
**PUSH**

Push the floating piston down to ensure correct position. Then fill shocks with shock oil up to the bottom of the thread and allow ALL air bubbles to dissipate.

| Part Number    | Description                | Amount | Optional Part Number       | Description                  |
|----------------|----------------------------|--------|----------------------------|------------------------------|
| 81 13 01 rear  | Shock absorber body, Long  | 2      |                            |                              |
| 81 13 02 front | Shock absorber body, Short | 2      |                            |                              |
| 81 13 03       | Preload adjustment nut     | 4      |                            |                              |
| 81 13 04       | Floating piston            | 4      |                            |                              |
| 81 13 05       | Floating piston spring FPS | 4      | 81 13 15 81 13 25 81 13 35 | SOFT, EXTRA SOFT, SUPER SOFT |
| 81 13 06       | Shock Absorber Ball cap    | 4      |                            |                              |
| 81 13 07       | Shock Absorber End cap     | 4      |                            |                              |
| 78 01 01       | Preload Nut O-ring         | 4      |                            |                              |
| 78 01 12       | Floating piston O-ring     | 8      |                            |                              |



| Part Number | Description                       | Amount | Optional Part Number                                                  | Description         |
|-------------|-----------------------------------|--------|-----------------------------------------------------------------------|---------------------|
| 81 15 00    | Front Shock Absorber Spring plate | 2      |                                                                       |                     |
| 81 15 01    | Rear Shock Absorber Spring plate  | 2      |                                                                       |                     |
| 81 15 23    | Rear Shock Spring                 | 2      |                                                                       |                     |
| 81 15 24    | Front Shock Spring                | 2      |                                                                       |                     |
| 82 01 65    | 650 cSt Silicone Oil              | 1      | 82 01 20/35/50/80 plus 82 02 01 200/350/500/800/1000 cSt Silicone Oil |                     |
|             |                                   |        | 92 50 04                                                              | Shepherd Shock Tool |



## Part Number

## Description

## Amount

## Optional Part Number

## Description

61 21 11

Shock Tower front

1

91 21 11

Narrow Shock Tower front

70 01 05

Pivot ball 4.9mm

2

70 01 06

Pivot ball 6mm

2

71 03 06

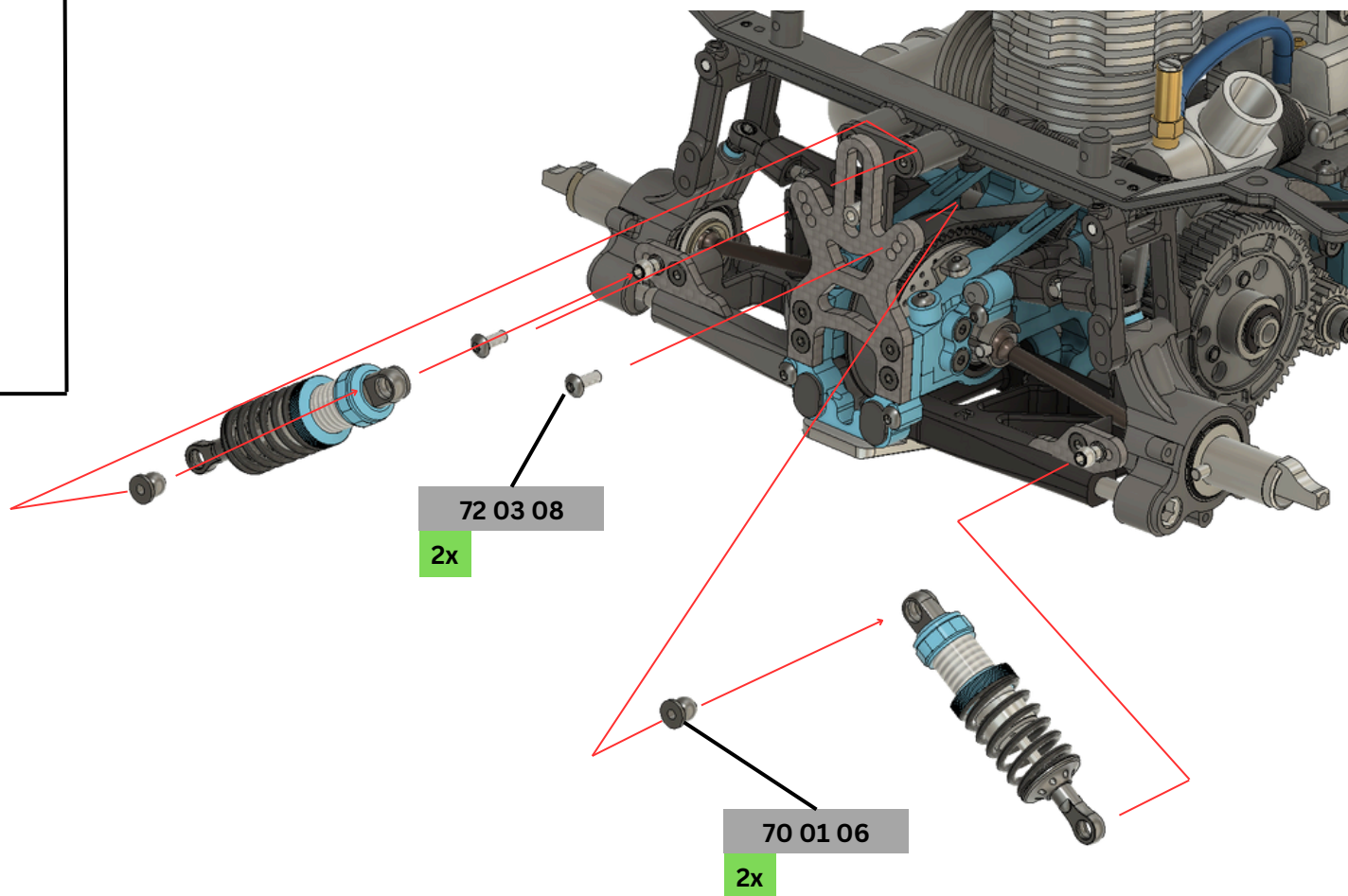
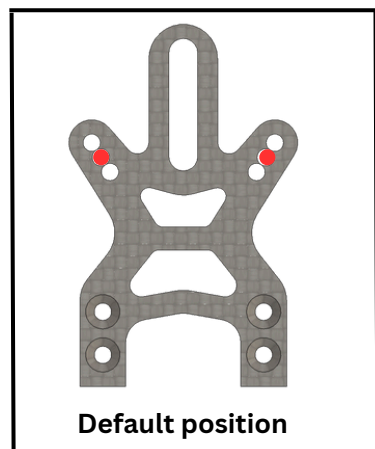
Countersunk screw M3x6

2

72 03 06

Hex Buttonhead screw M3x6

2



## Part Number

## Description

## Amount

## Optional Part Number

## Description

70 01 06

Pivot ball 6mm

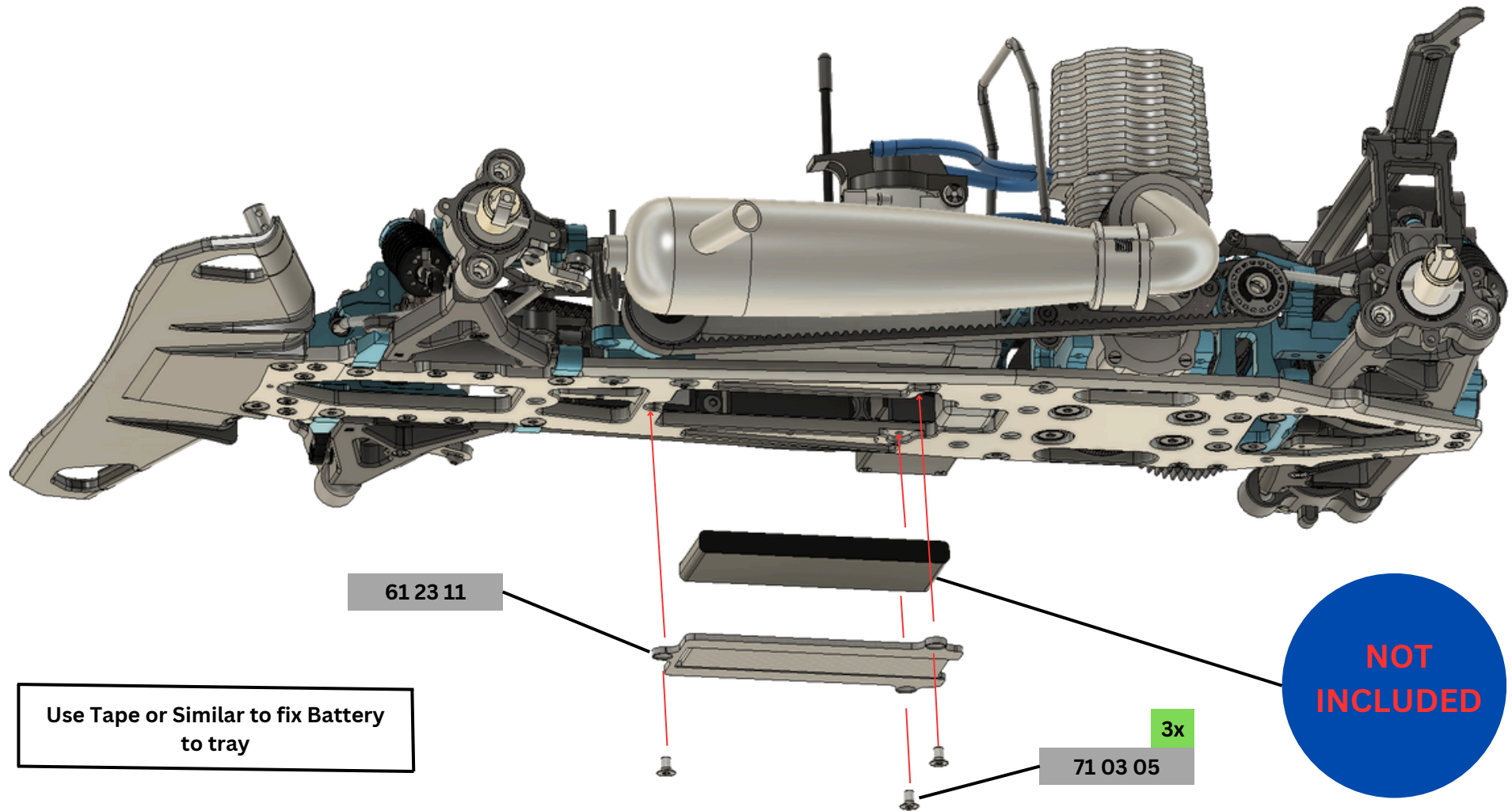
2

72 03 08

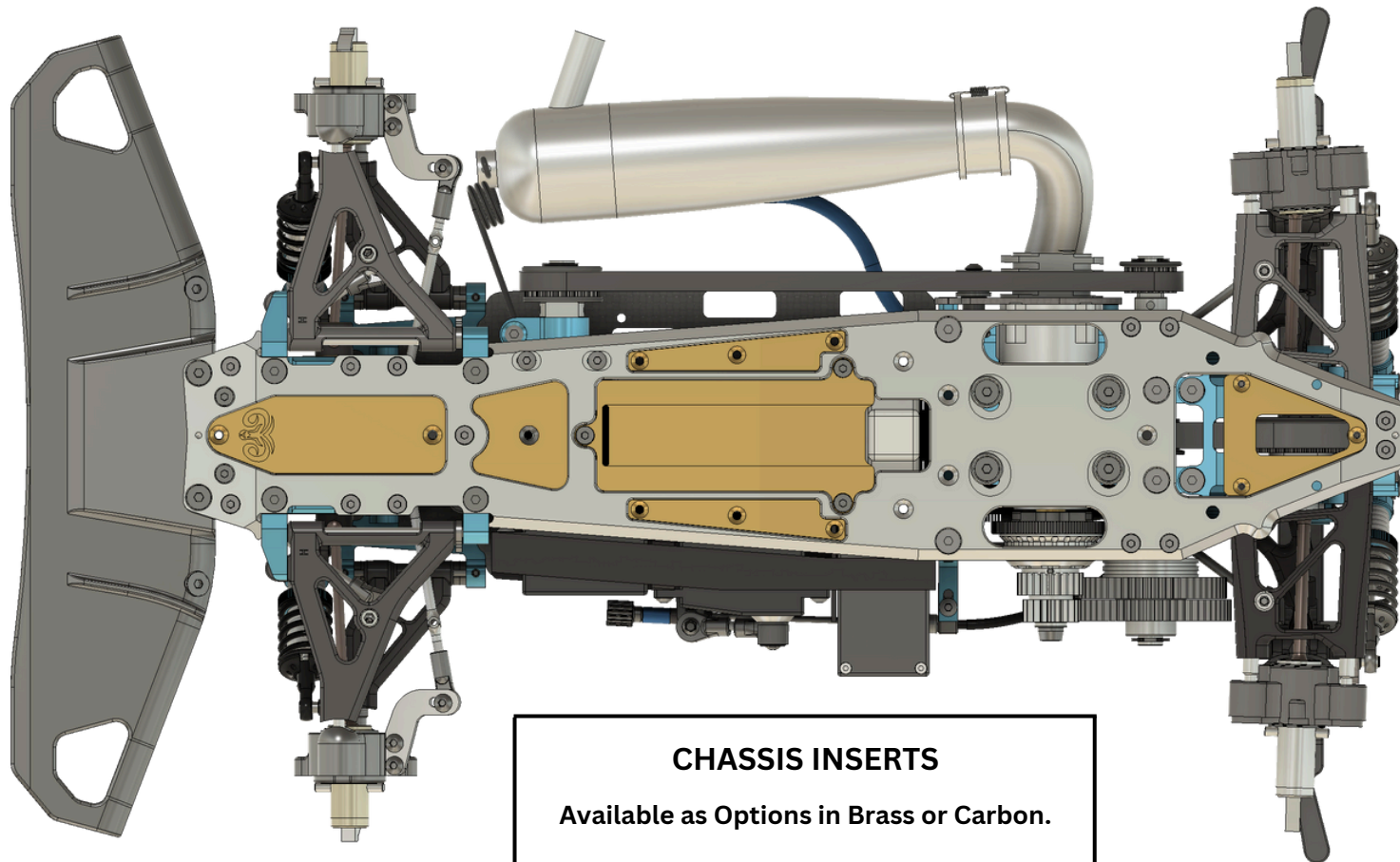
Hex Buttonhead screw M3x8

2





| Part Number | Description                | Amount | Optional Part Number  | Description                                           |
|-------------|----------------------------|--------|-----------------------|-------------------------------------------------------|
| 61 23 11    | Battery tray               | 1      | 90 00 35              | AWS Battery System                                    |
| 71 03 05    | Hex Countersunk screw M3x5 | 3      |                       |                                                       |
| 70 05 01    | Body clips                 | 4      | BR770105<br>BR700004B | Drive Train Bearing Set<br>Titanium Screw Set (Black) |

**CHASSIS INSERTS**

Available as Options in Brass or Carbon.

| Part Number | Description | Amount | Optional Part Number | Description            |
|-------------|-------------|--------|----------------------|------------------------|
|             |             |        | 90 31 04             | Brass Middle weights   |
|             |             |        | 90 00 35B            | Advanced weight system |
|             |             |        | 91 23 25 ( L & R )   | Brass side inserts     |
|             |             |        | 90 31 06 ( L & R )   | Carbon side inserts    |
|             |             |        | 90 23 26             | Brass rear insert      |
|             |             |        | 90 31 08             | Carbon rear insert     |
|             |             |        | 91 23 21             | Brass battery tray     |
|             |             |        | 90 31 13             | Carbon Front inserts   |
|             |             |        | 91 23 27             | Brass front inserts    |

