



VS4-10 PORTAL BUILDERS KIT

1:10 SCALE HIGH PERFORMANCE 4WD PLATFORM



F10 **PORTAL AXLE**
HIGH PERFORMANCE AXLE

INSTRUCTION MANUAL

■ THANK YOU

Thank you for selecting this Vanquish Products vehicle kit. This kit is designed to be fun to drive and uses top quality parts for durability and performance. The instruction manual you are reading was designed to be easy to follow yet thorough in its explanations.

If you come across any problems or need some help getting through a step, please contact us through our website www.VanquishProducts.com.

This is a high performance R/C kit, and it requires regular maintenance for best performance.

If you don't do regular maintenance the performance will suffer.

Vanquish Products has all the necessary parts and accessories available to keep your kit performing at its best. Please read and understand the instructions carefully before proceeding.

BEFORE RUNNING

- Please read manual (with parent, guardian or a responsible adult if necessary).
- Make sure that all screws and nuts are properly tightened.
- Always use fresh batteries for your transmitter and receiver to avoid losing control of the model.
- Please confirm the neutral throttle trigger position.

WHILE OPERATING

- Please do not run on a public street, this could cause serious accidents, personal injuries and/or property damage.
- Please do not run near pedestrians or small children.
- Please do not run in small or confined areas.

AFTER OPERATING

- Turn OFF receiver first, then turn OFF transmitter. This will prevent the car from losing control.
- After running a Vanquish Products vehicle, it is necessary to perform routine maintenance.
Failure to do this can result in increased wear and damage to the vehicle.

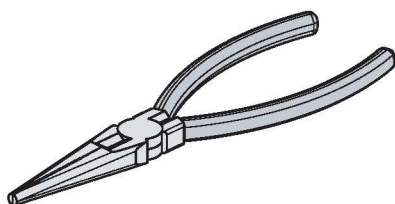
BATTERY SAFETY

- Please be careful when handling the battery. It will be hot after running. If the wire is frayed, a short circuit can cause a fire.
- Please read all instructions and warnings provided by your battery manufacturer for more safety information.

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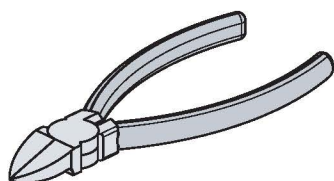
■ NECESSARY FOR MAINTENANCE



NEEDLE NOSE PLIERS
(NOT INCLUDED)



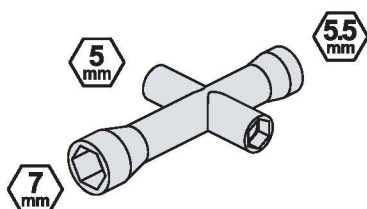
GREASE
(INCLUDED)



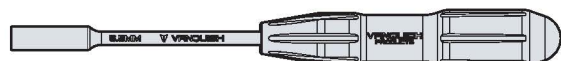
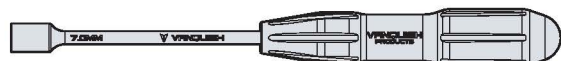
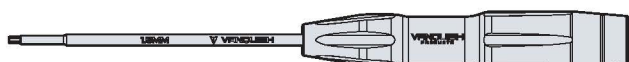
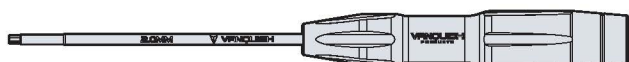
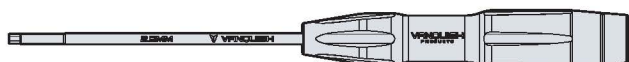
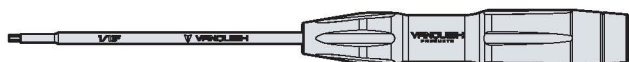
SIDE CUTTERS
(NOT INCLUDED)



THREAD LOCK
(INCLUDED)



CROSS WRENCH
(INCLUDED)



SUGGESTED TOOLS (NOT INCLUDED):

VPS08410 STANDARD TOOL SET

VPS08400 METRIC TOOL SET

VPS08440 METRIC NUT DRIVER TOOL SET

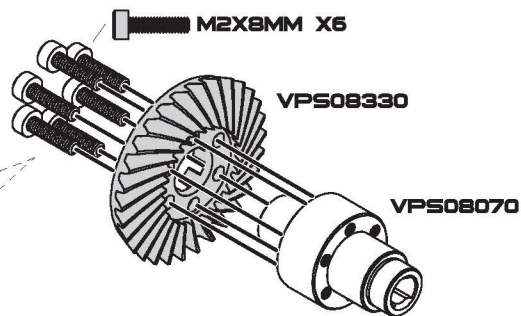
BAG A

FRONT AXLE OPEN BAG A

1



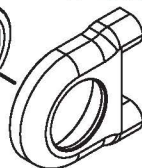
THREAD LOCK



5XTIX4MM BEARING X1



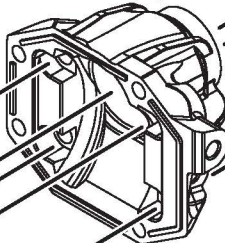
VPS08606



7X14X3.5MM BEARING X2



VPS08606



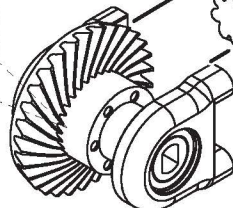
M3X10MM X4



2



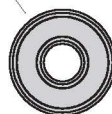
GREASE



VPS08330



5X14X5MM BEARING X1



M2.5X10MM X4



3

2



VPS08604

VPS08609

VPS08609

1
INSERT LONG SIDE BRASS
TUBE INTO AXLE HOUSING

1
INSERT SHORT SIDE BRASS
TUBE INTO AXLE HOUSING

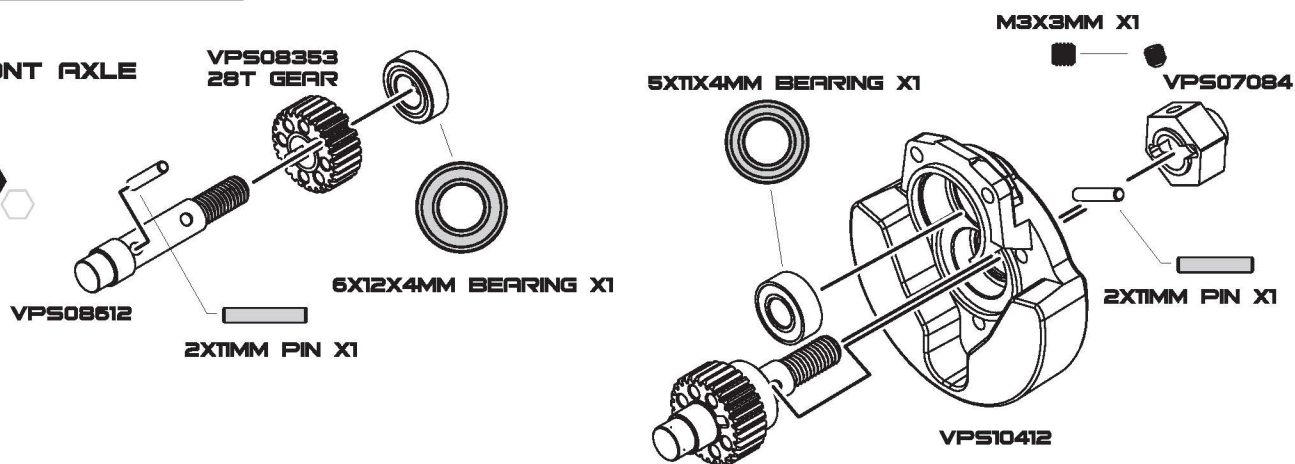
5XTIX4MM BEARING X2

2

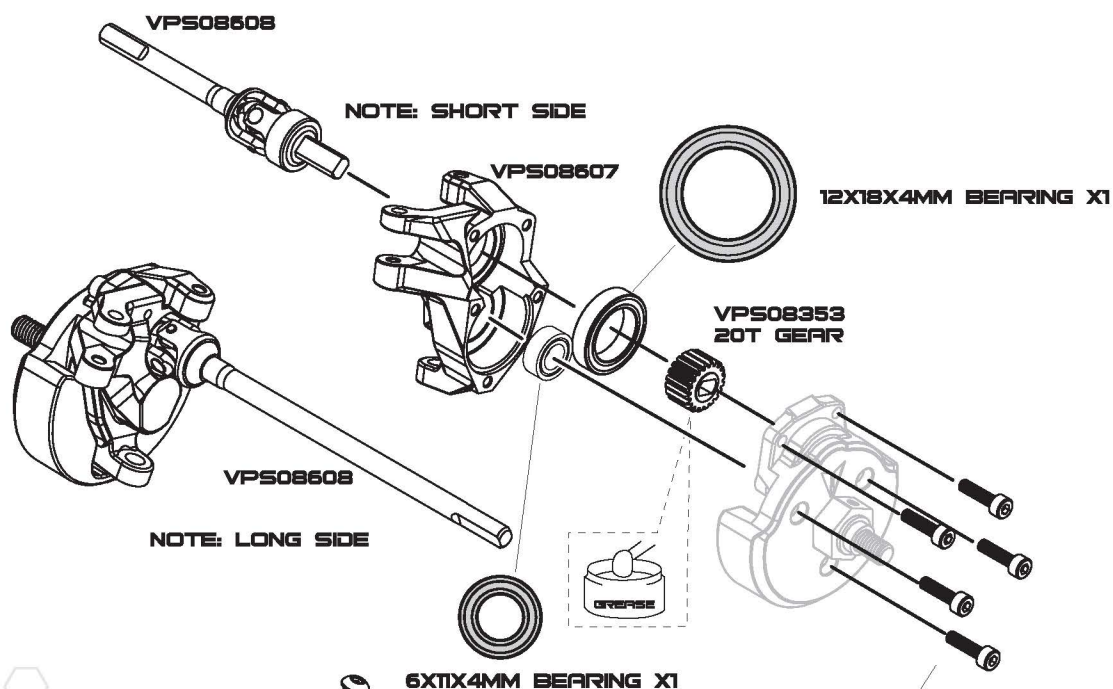


FRONT AXLE

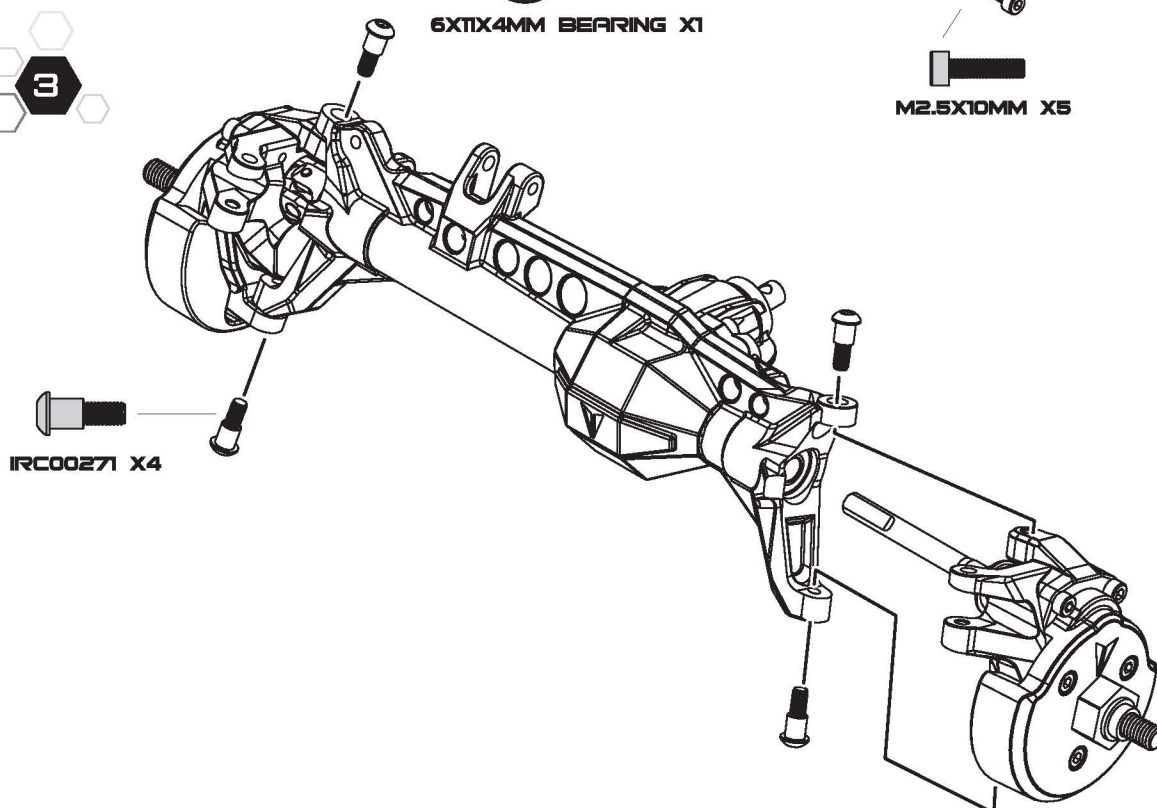
1



2



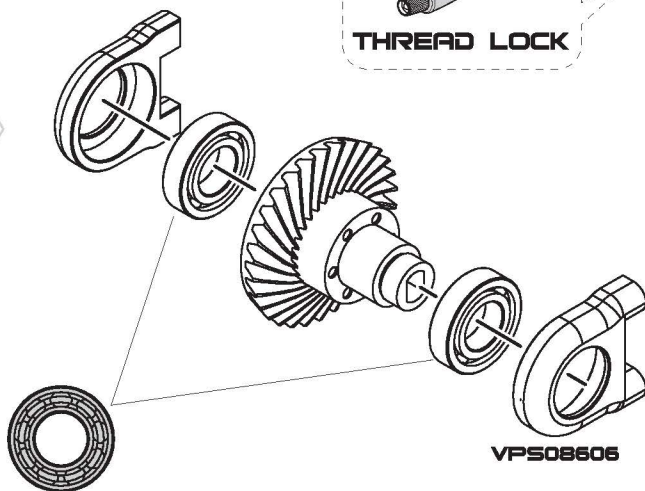
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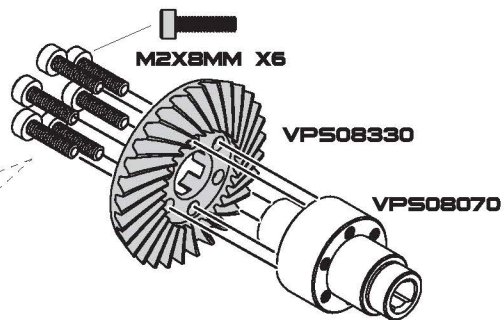
BAG B

■ REAR AXLE OPEN BAG B

1



7X14X3.5MM BEARING X2



M2X8MM X6

VP508330

VP508070

THREAD LOCK

5X11X4MM BEARING X1

VP508606

VP508606

5X14X5MM BEARING X1

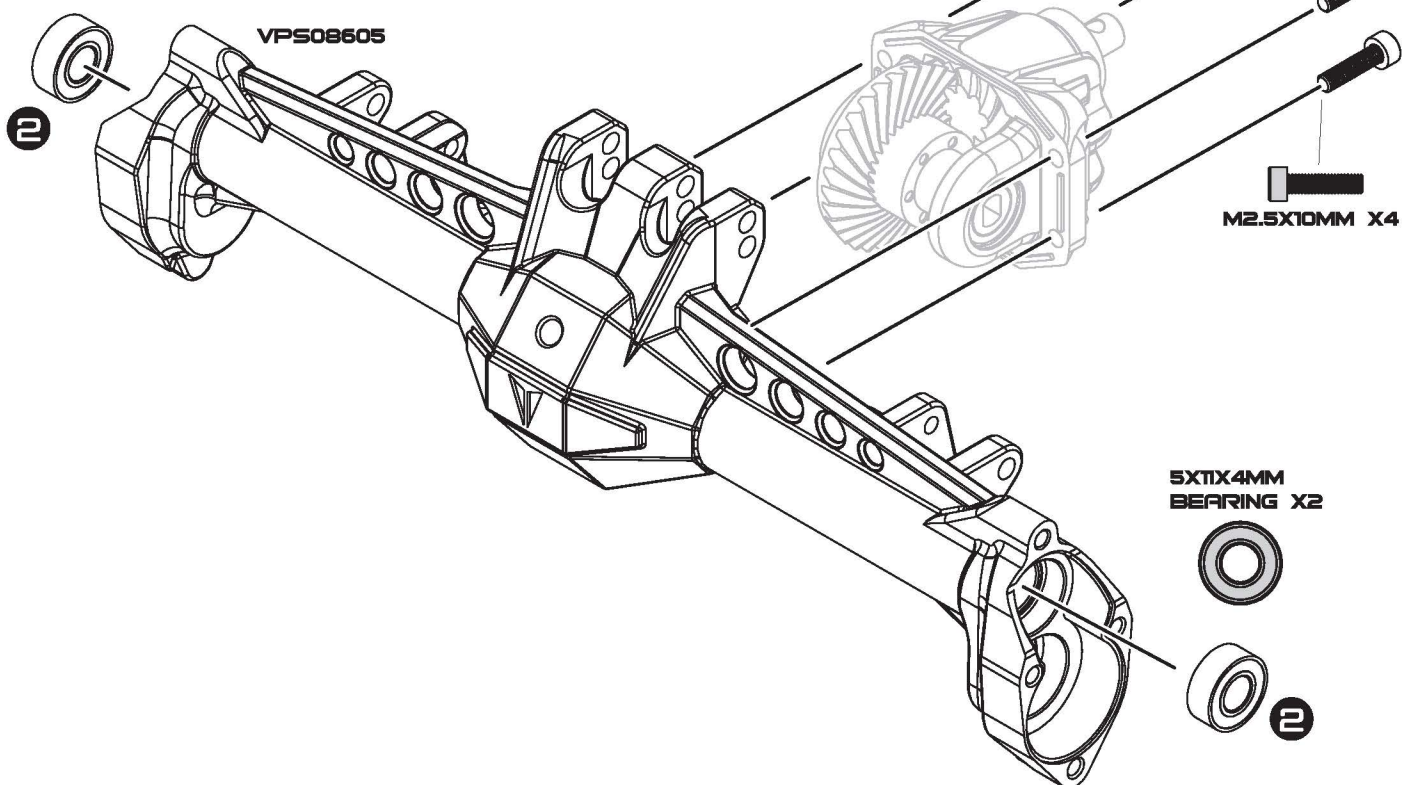
M3X10MM X4

2



VP508330

3



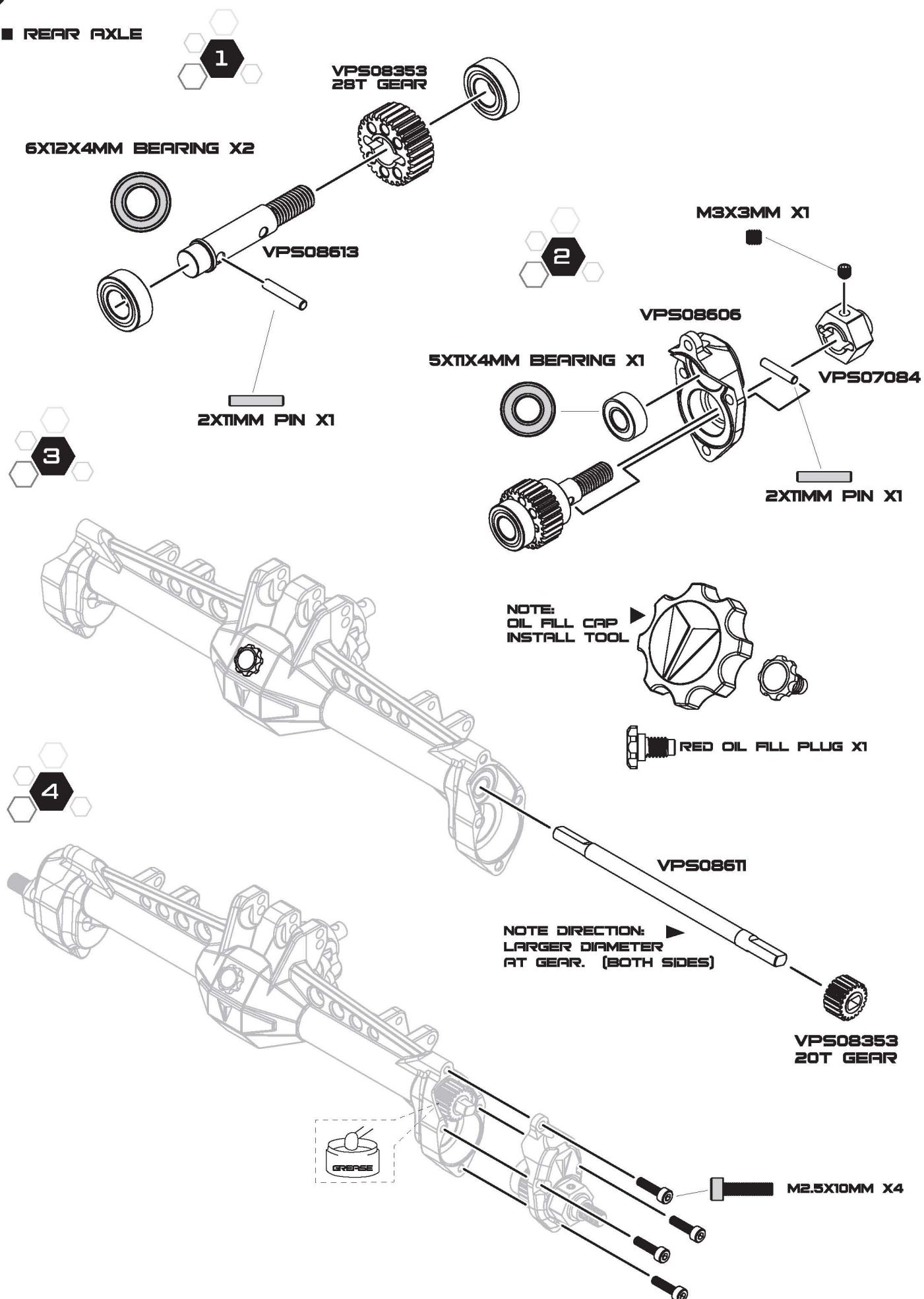
VP508605

M2.5X10MM X4

5X11X4MM
BEARING X2

BAG B

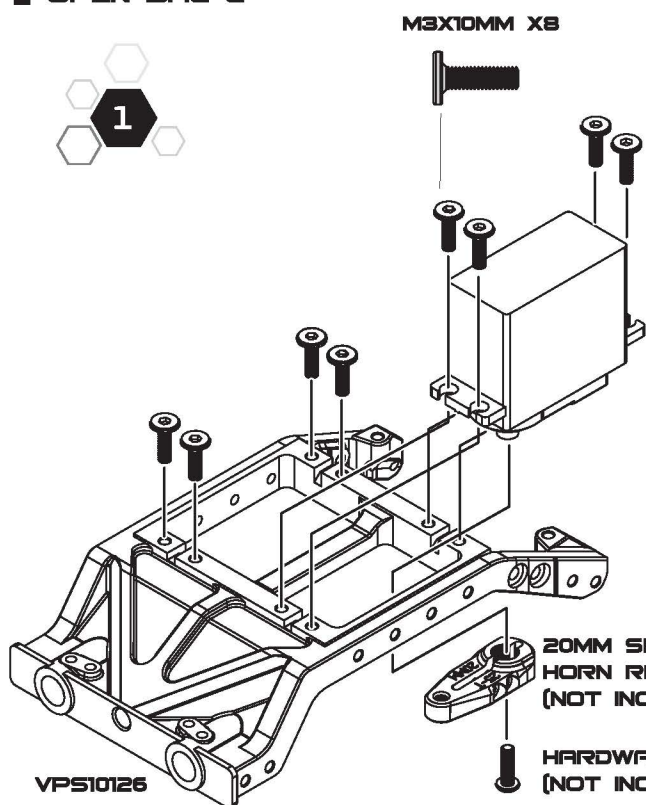
■ REAR AXLE



BAG C

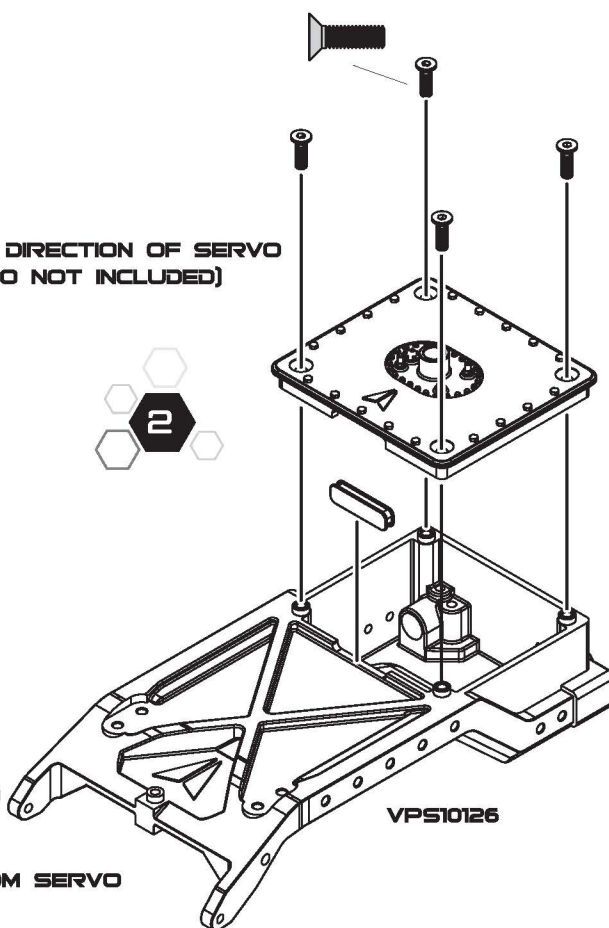
CHASSIS OPEN BAG C

1

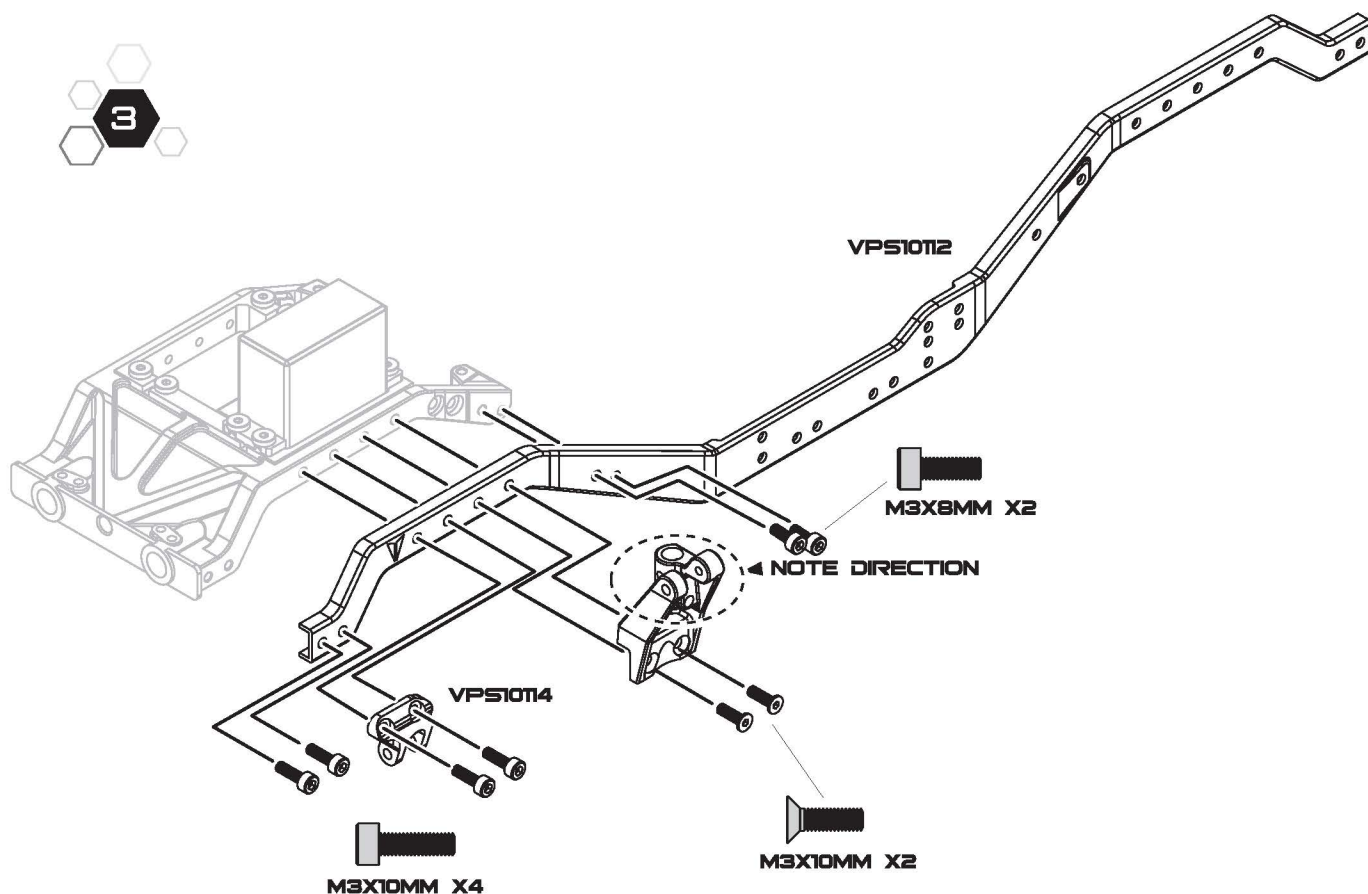


M3X10MM X4

2

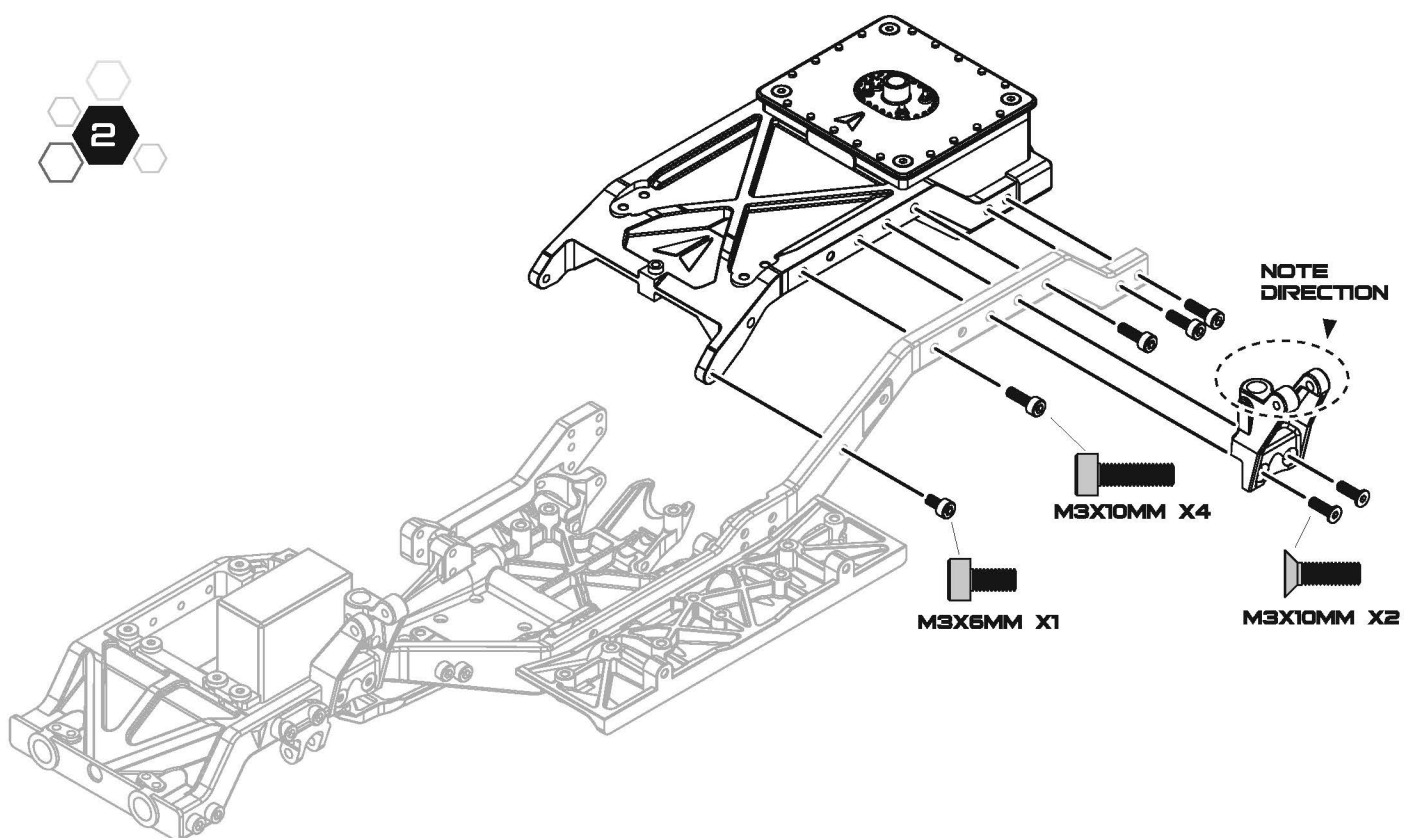
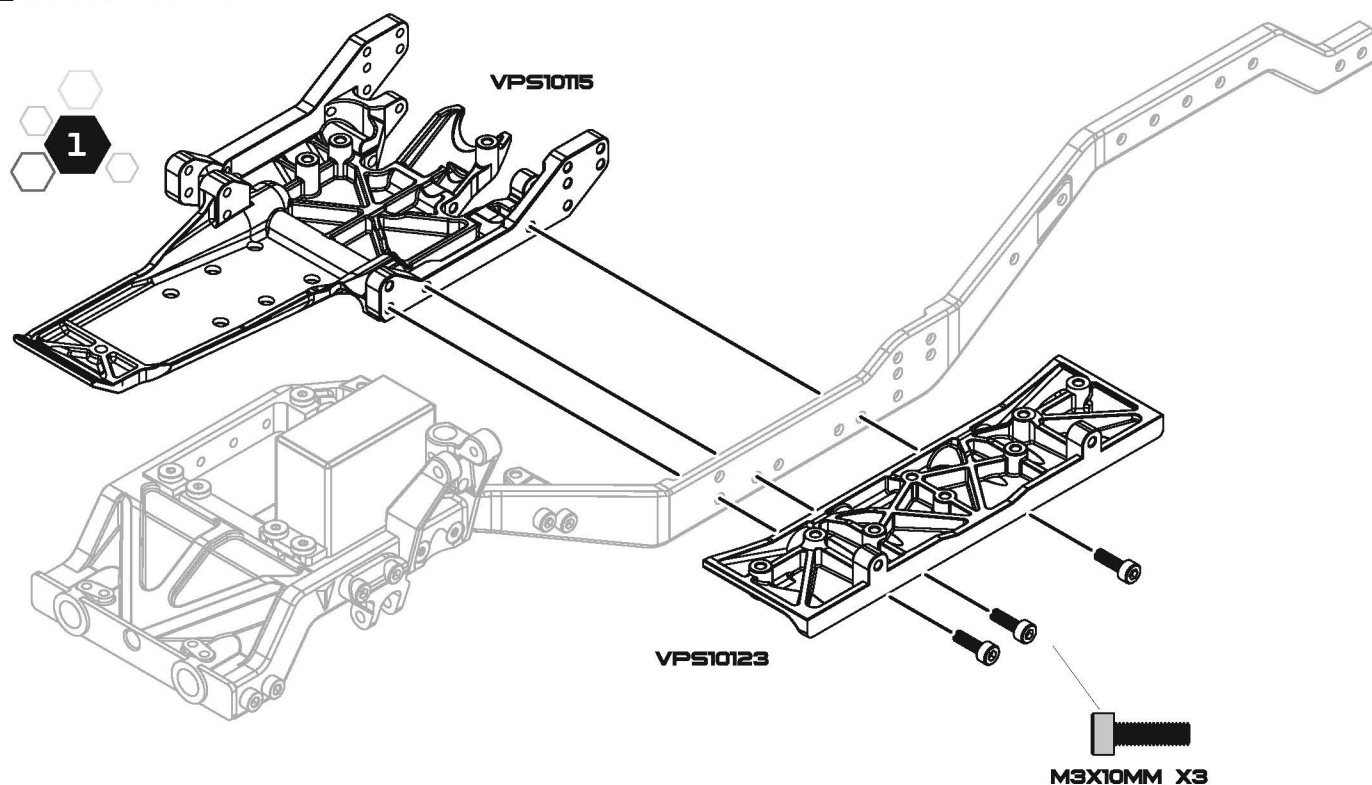


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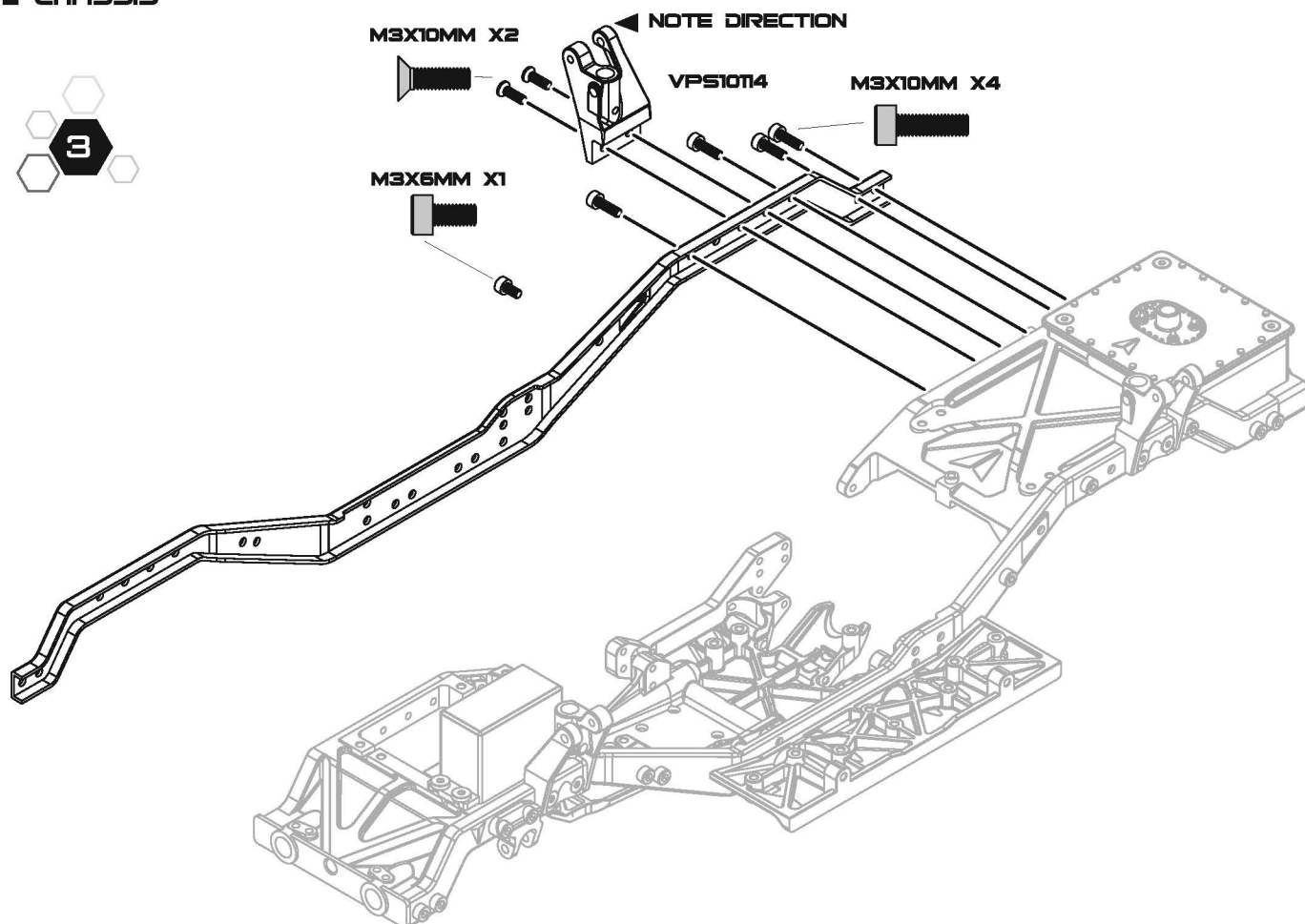
BAG C

CHASSIS OPEN BAG C

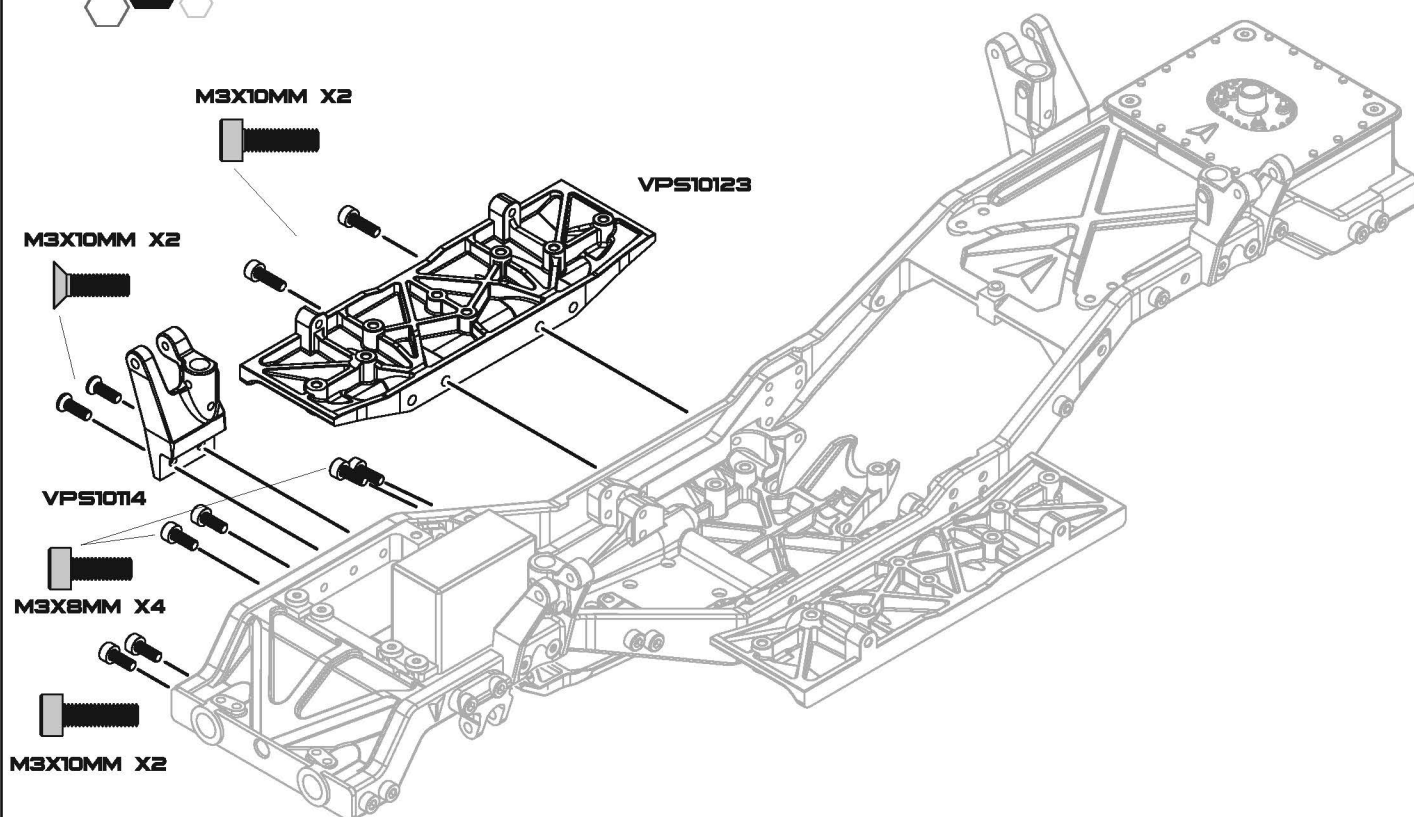


■ CHASSIS

3

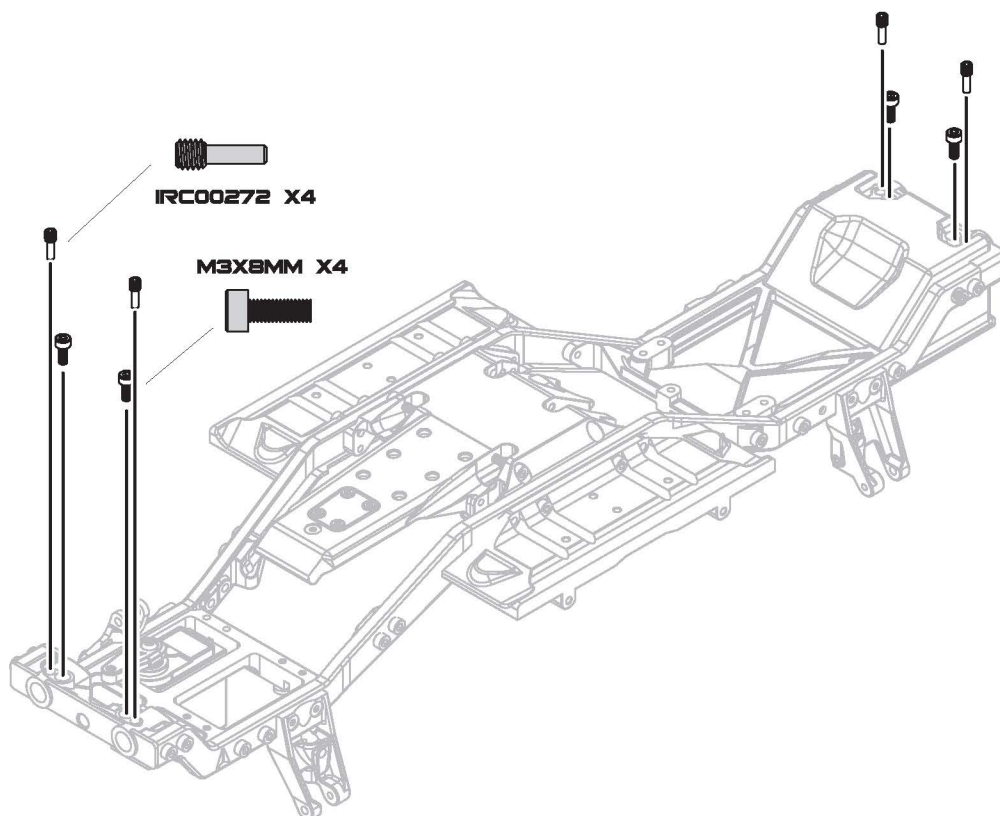


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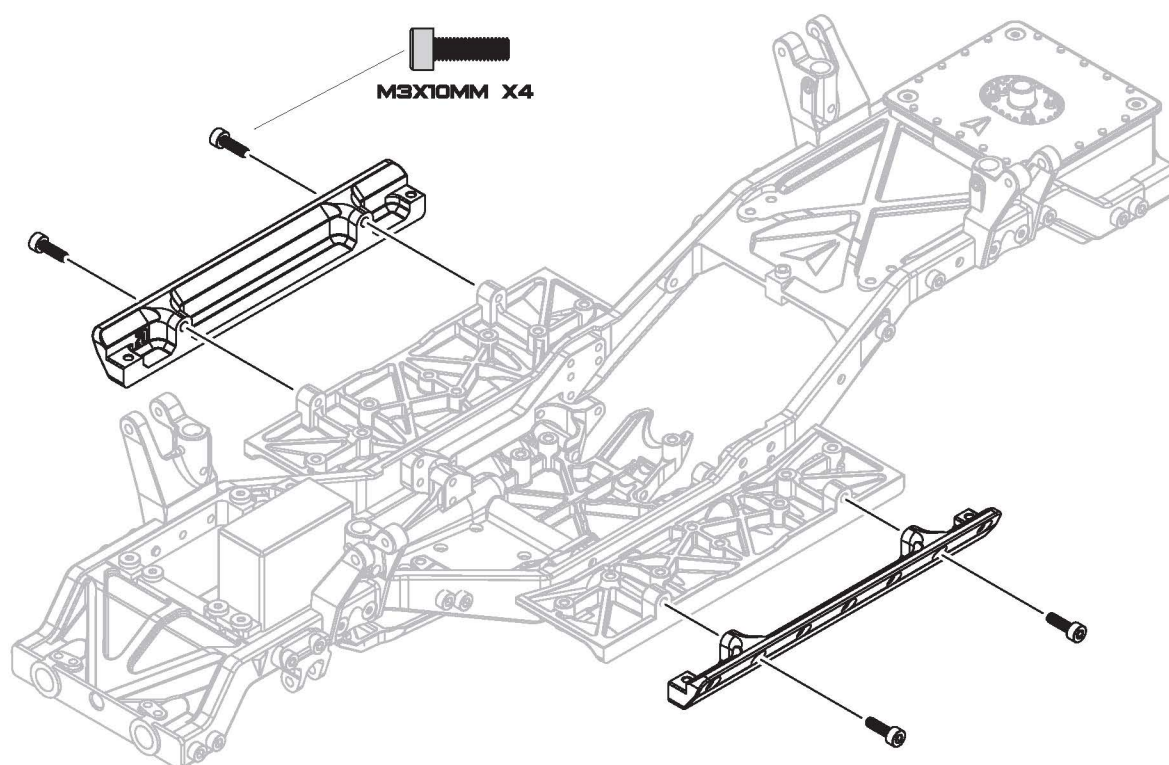


■ CHASSIS

5



6



TRANSMISSION OPEN BAG D

1

M3X12MM X2

5X11X4MM BEARING X1

VPS10209

VPS10151

VPS10148

2X10MM PIN X1

VPS10209

VPS10209

M3X6MM X3

M4 NYLOCK NUT X1

IRC00403
52T SPUR GEAR X1

3

IRC00275
M3X10MM X2

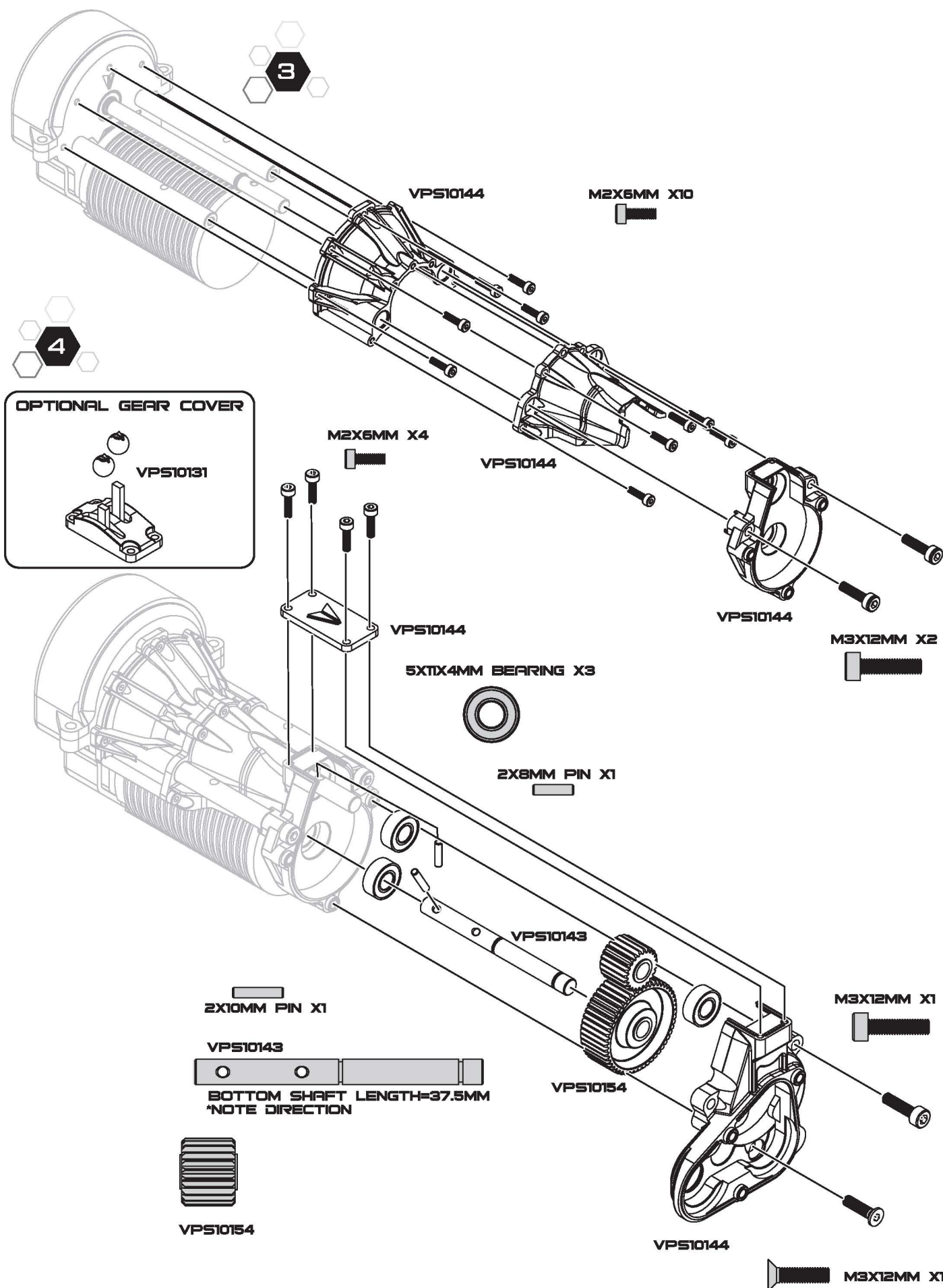
M4X4MM X1

IRC00263
32P 15T PINION X1

VPS10144

BAG D

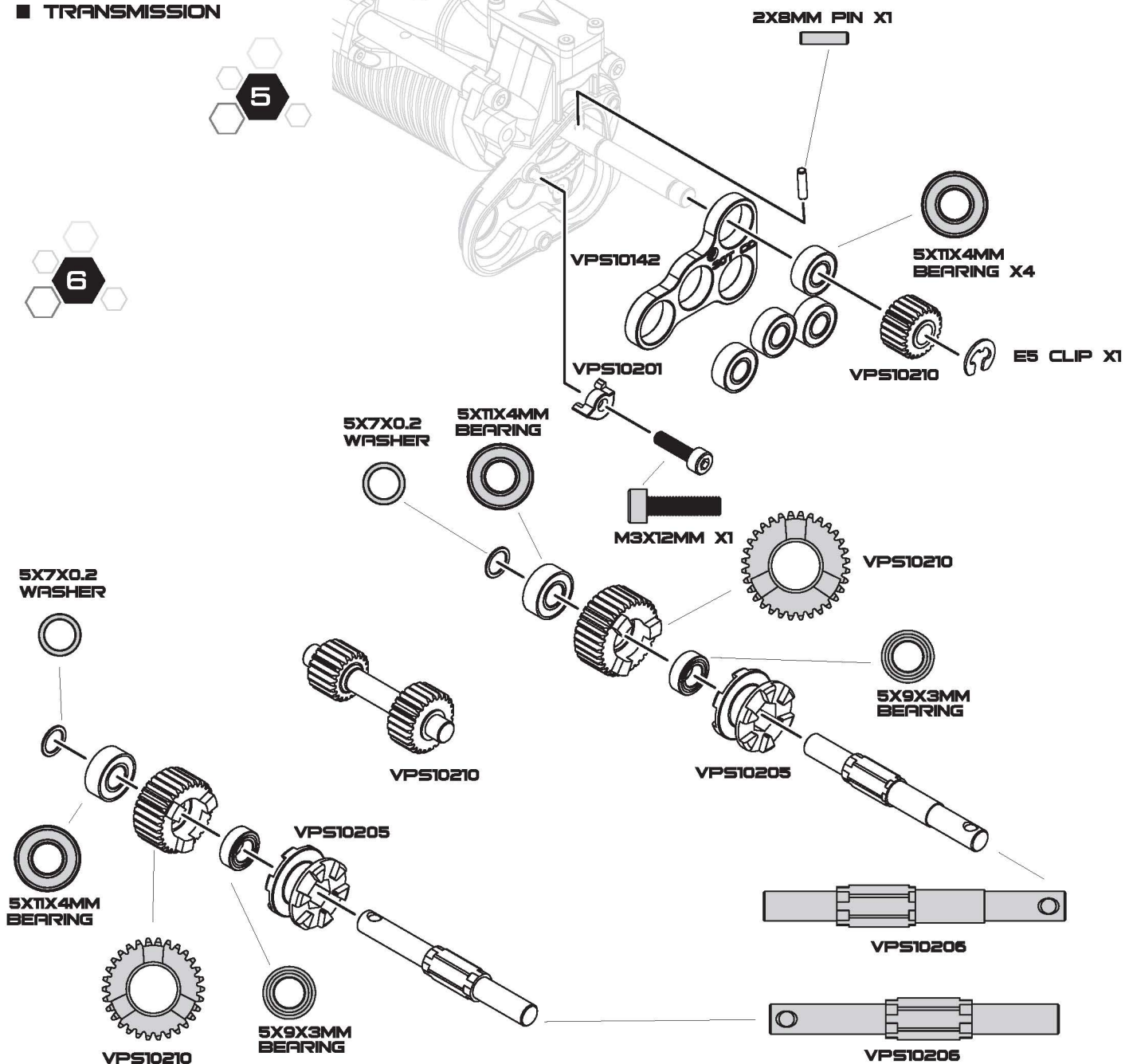
■ TRANSMISSION



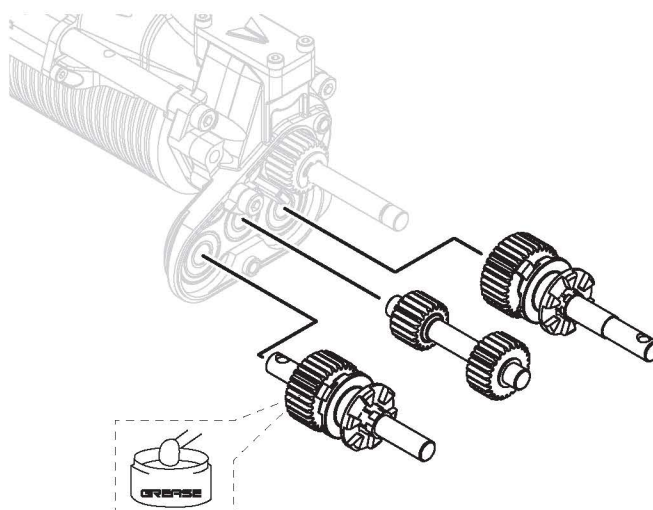
■ TRANSMISSION

5

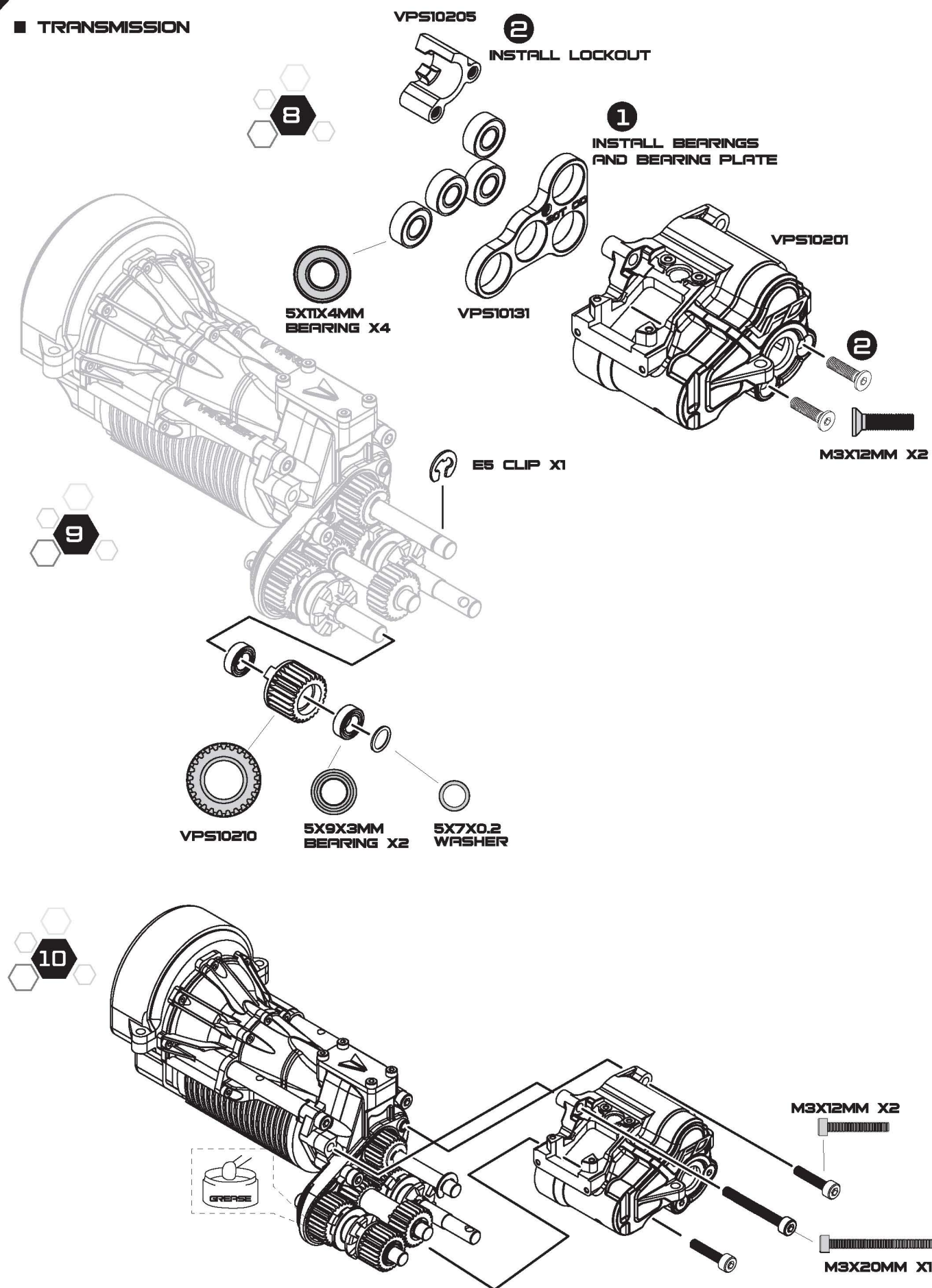
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7

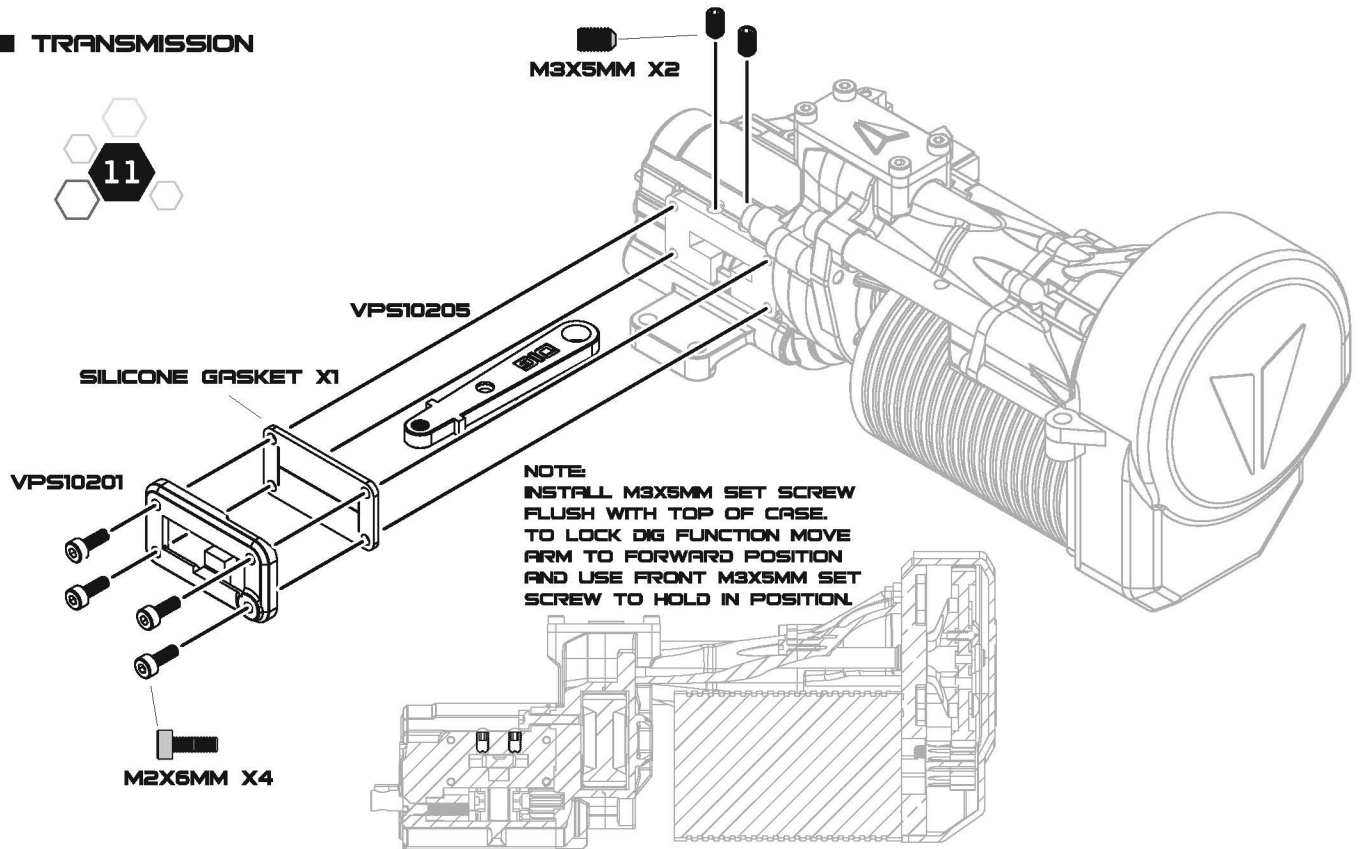


■ TRANSMISSION



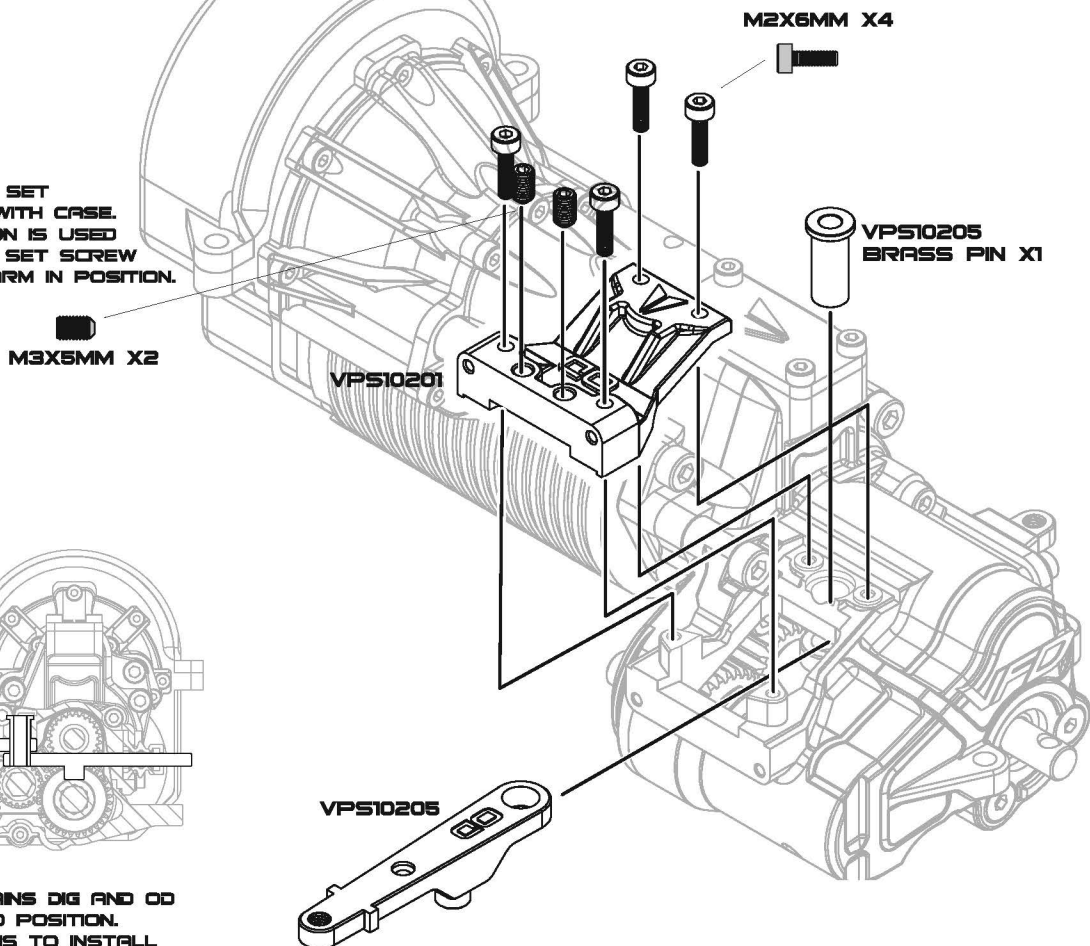
TRANSMISSION

11



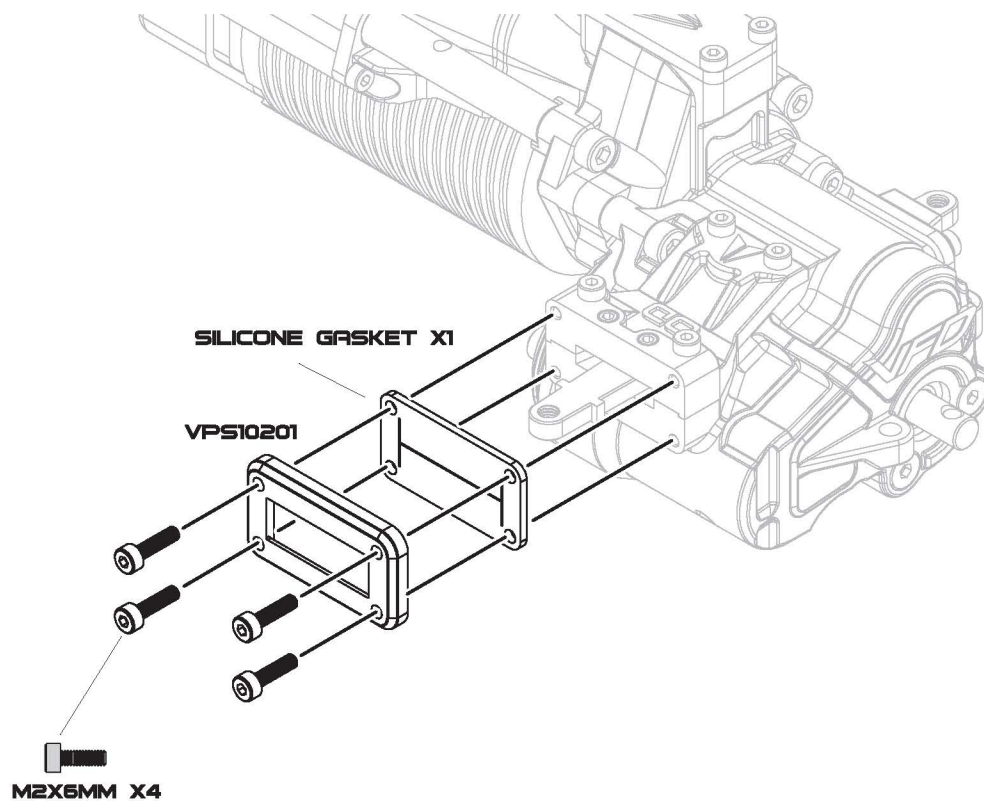
12

NOTE: INSTALL M3X6MM SET SCREWS FLUSH WITH CASE. IF SINGLE POSITION IS USED TIGHTEN M3X6MM SET SCREW TO HOLD SHIFT ARM IN POSITION.

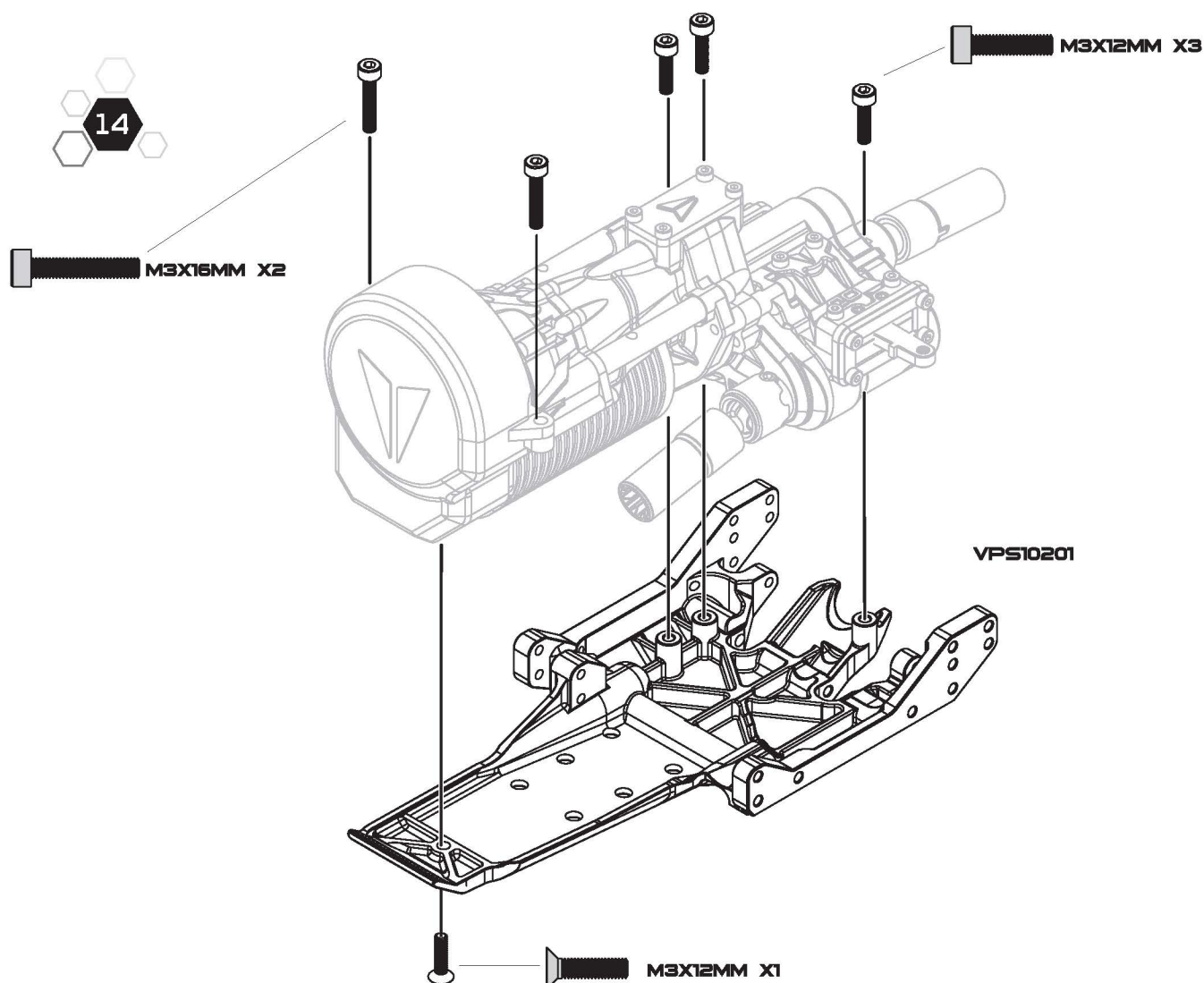


TRANSMISSION

13

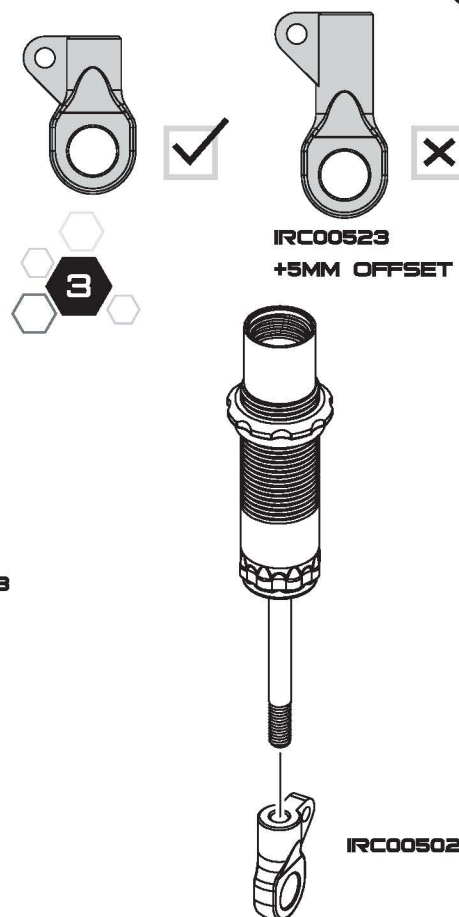
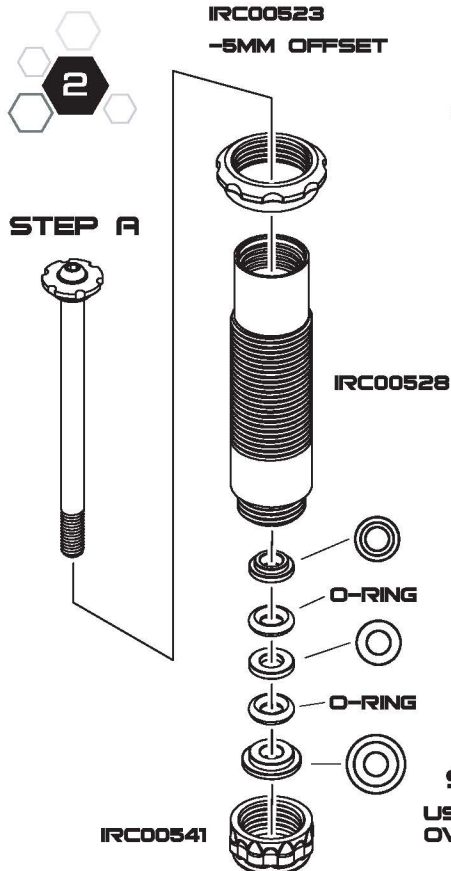
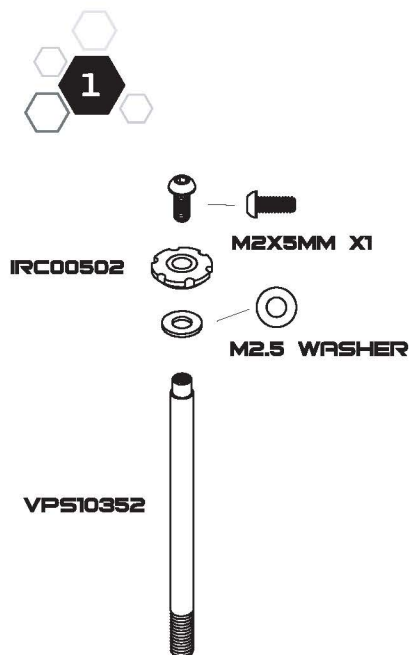


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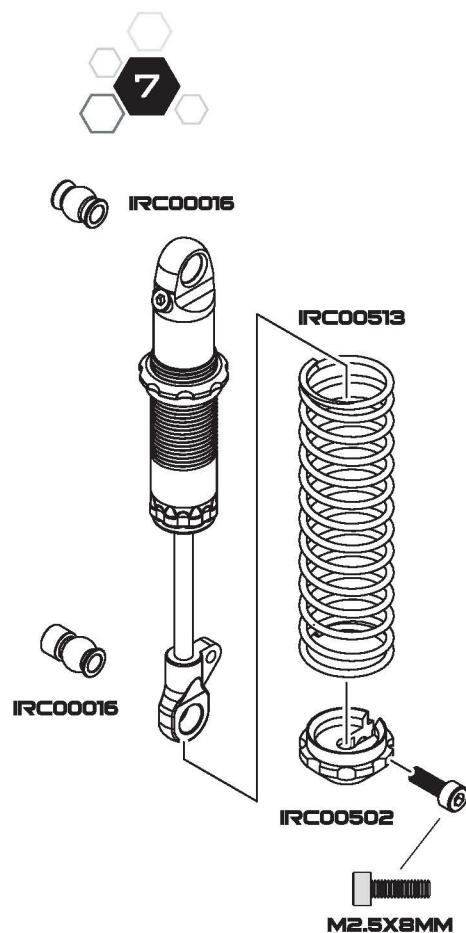
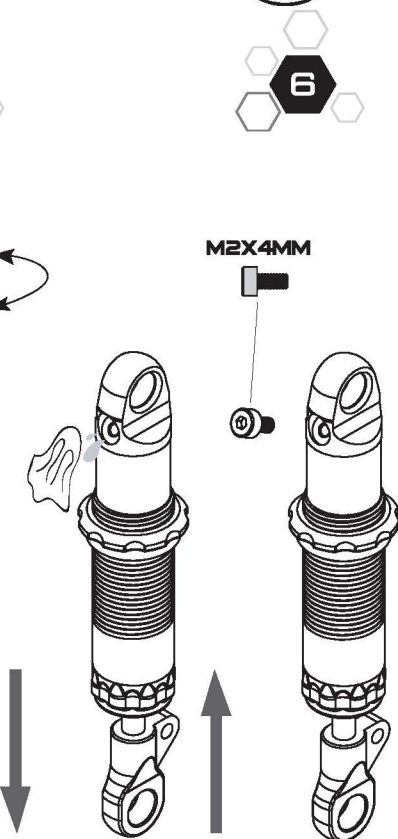
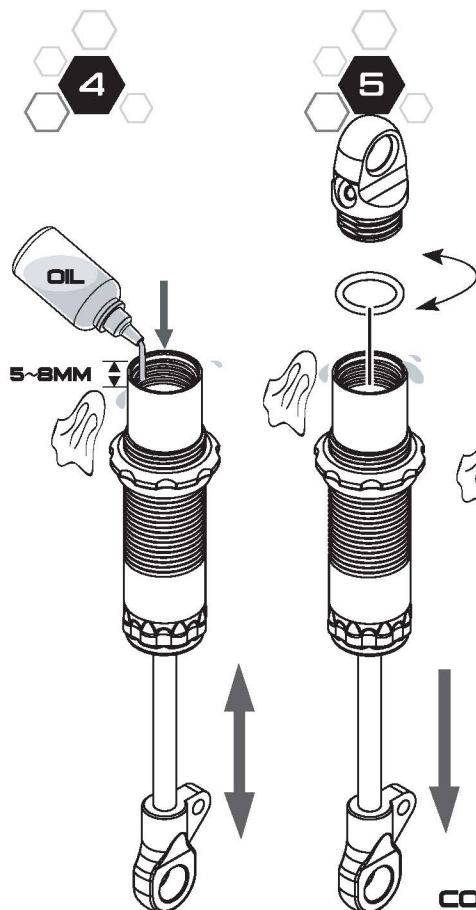


BAG E

■ S8E SHOCK ASSEMBLY OPEN BAG E

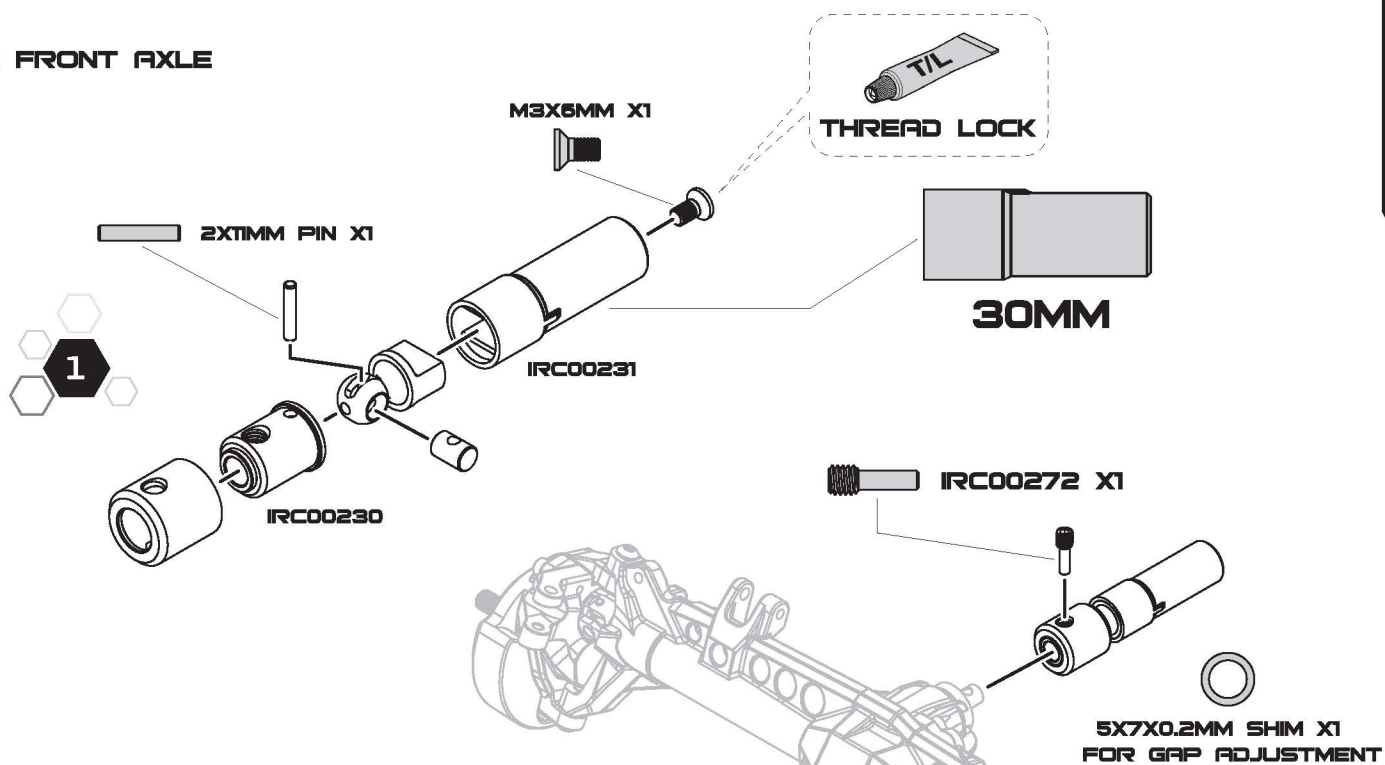


STEP B
USE CARE WHEN INSTALLING O-RINGS
OVER SHOCK SHAFT THREADS

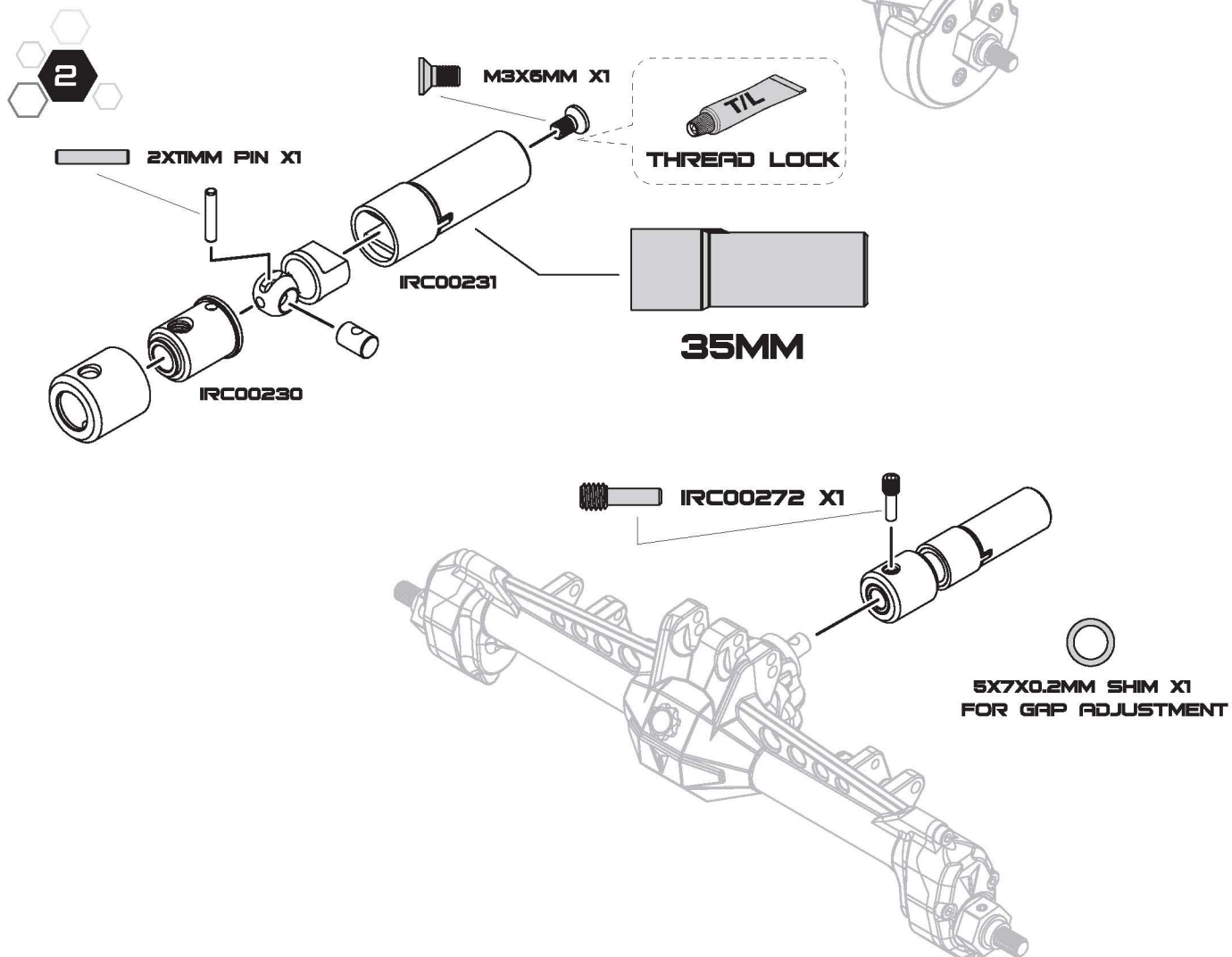


**COMPRESS SHOCK
COMPLETELY THEN INSERT
BLEED SCREW**

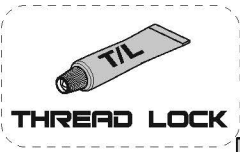
■ FRONT AXLE



■ REAR AXLE



■ FRONT AXLE



REAR



■ OPEN BAG G

X2 REAR LOWER LINKS 124MM



X2 REAR UPPER LINKS 117MM



X2 FRONT LOWER LINKS 103MM



X1 FRONT UPPER LINK 90.5MM



X1 PANHARD LINK 80MM



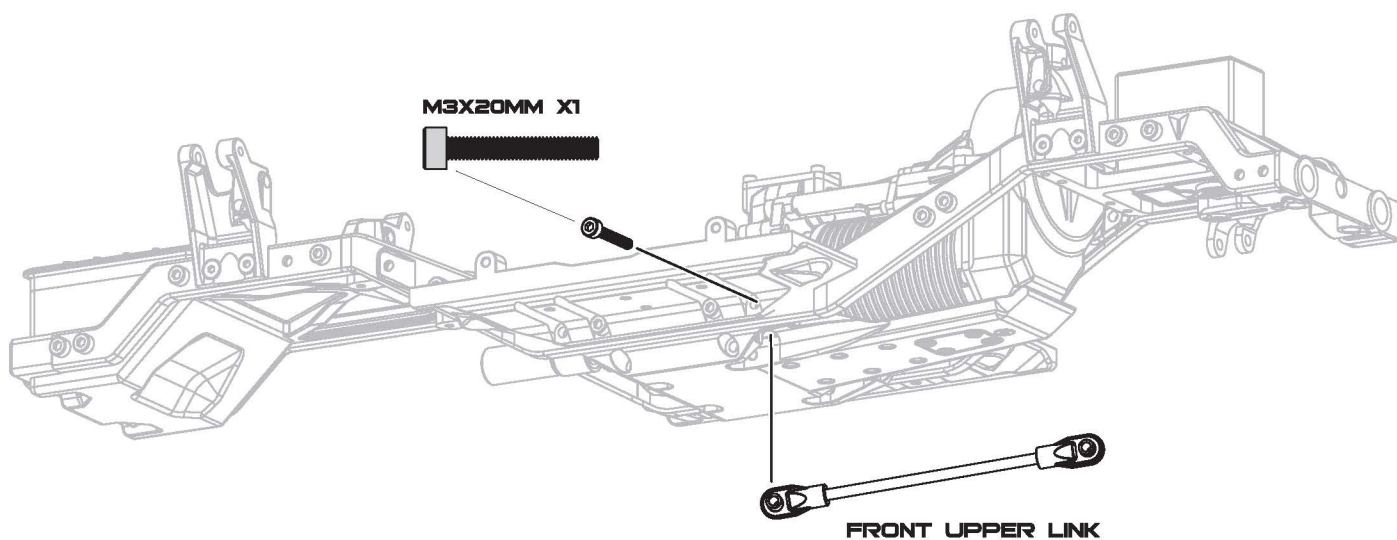
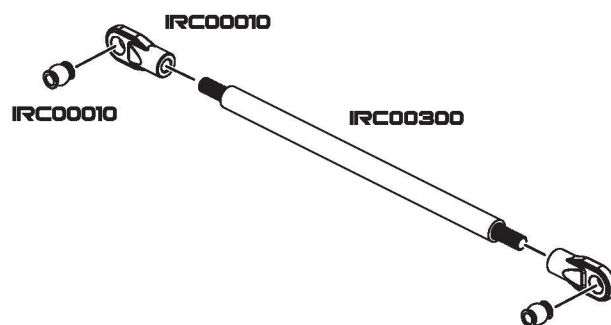
X1 DRAG LINK 80MM



X1 TIE ROD LINK 126MM

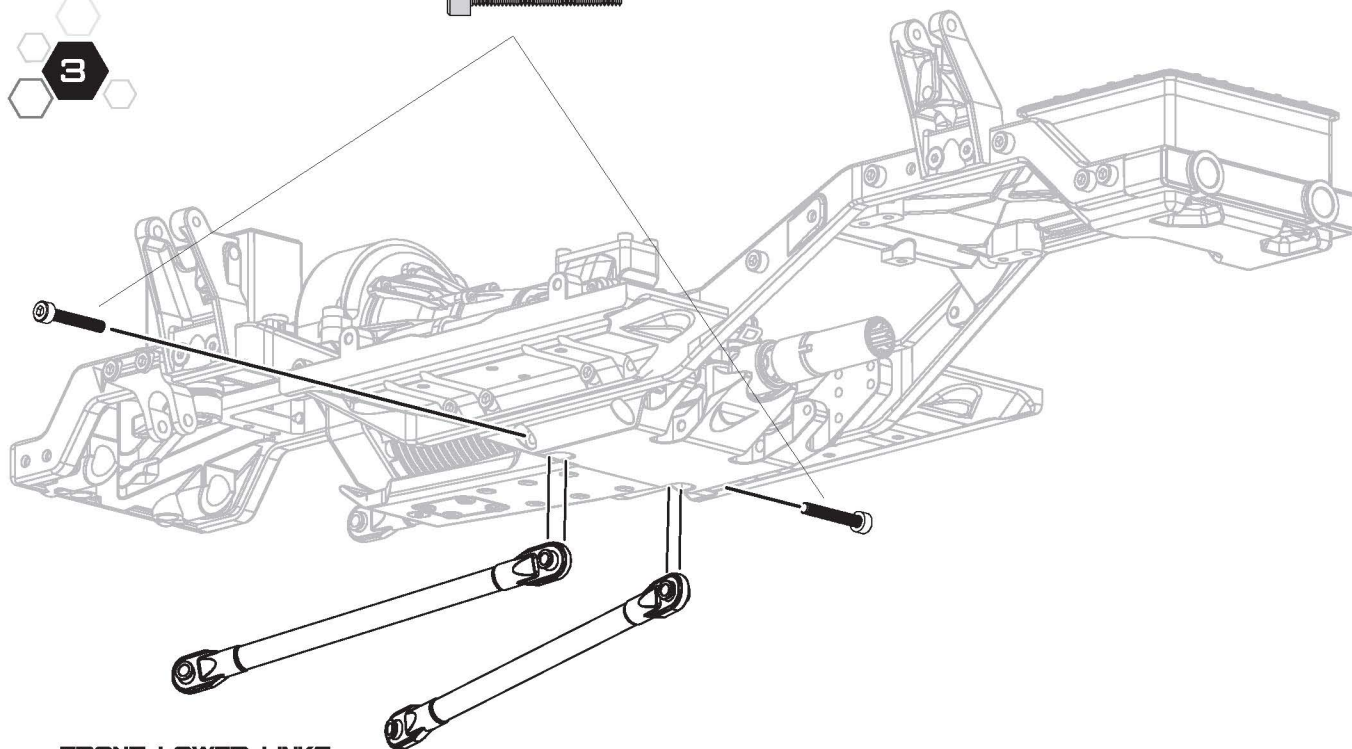


*NOTE: PANHARD AND DRAG LINK CAN BE SHORTENED AS NEEDED IF RUNNING SHORTER SHOCKS.

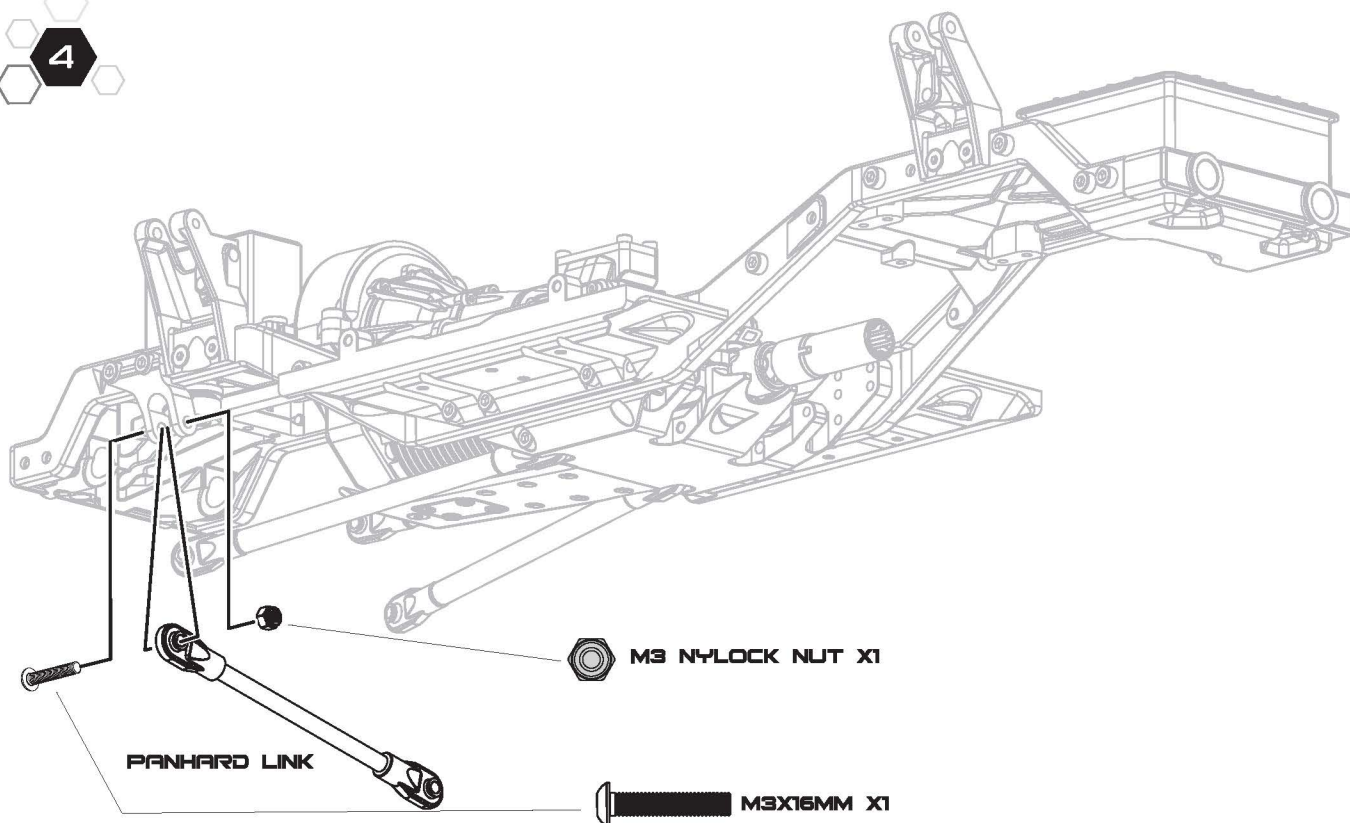


■ LINKS

M3X20MM X2



FRONT LOWER LINKS



M3 NYLOCK NUT X1

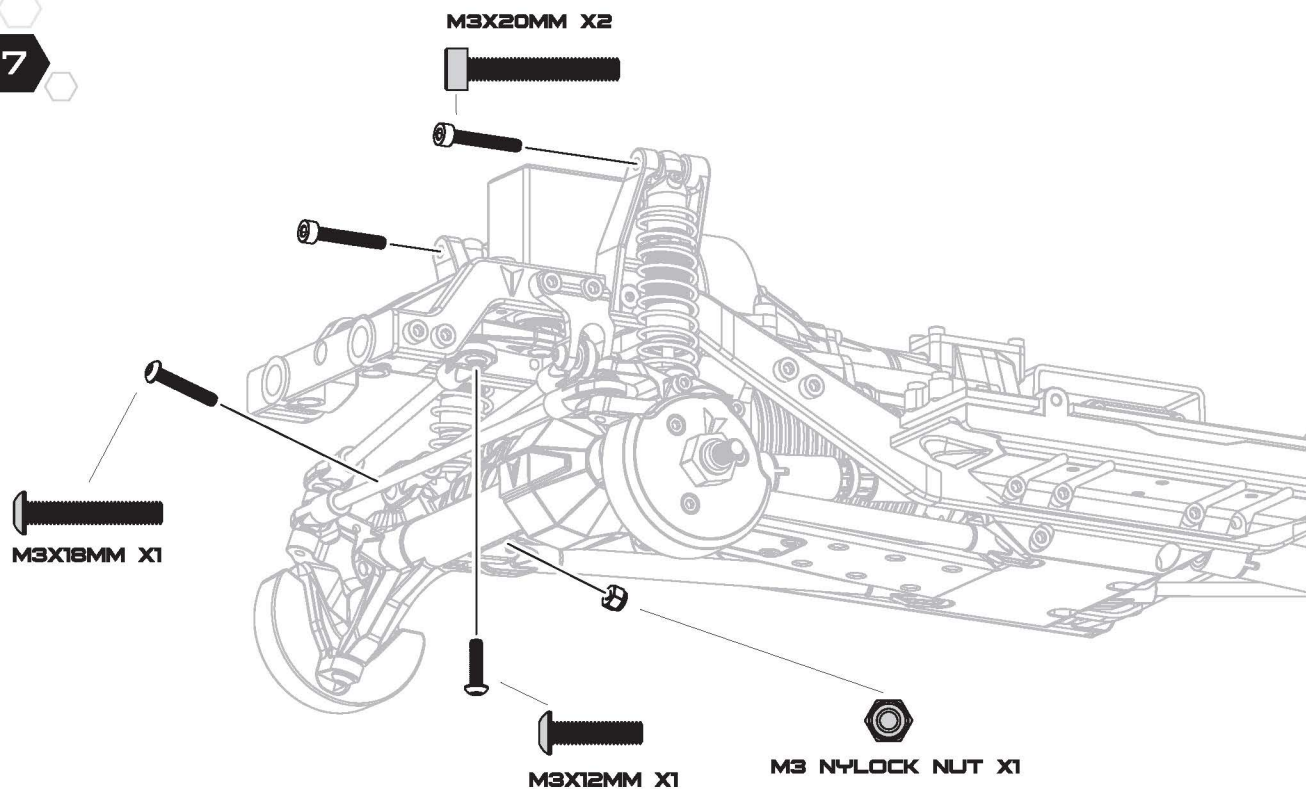
PANHARD LINK

M3X16MM X1

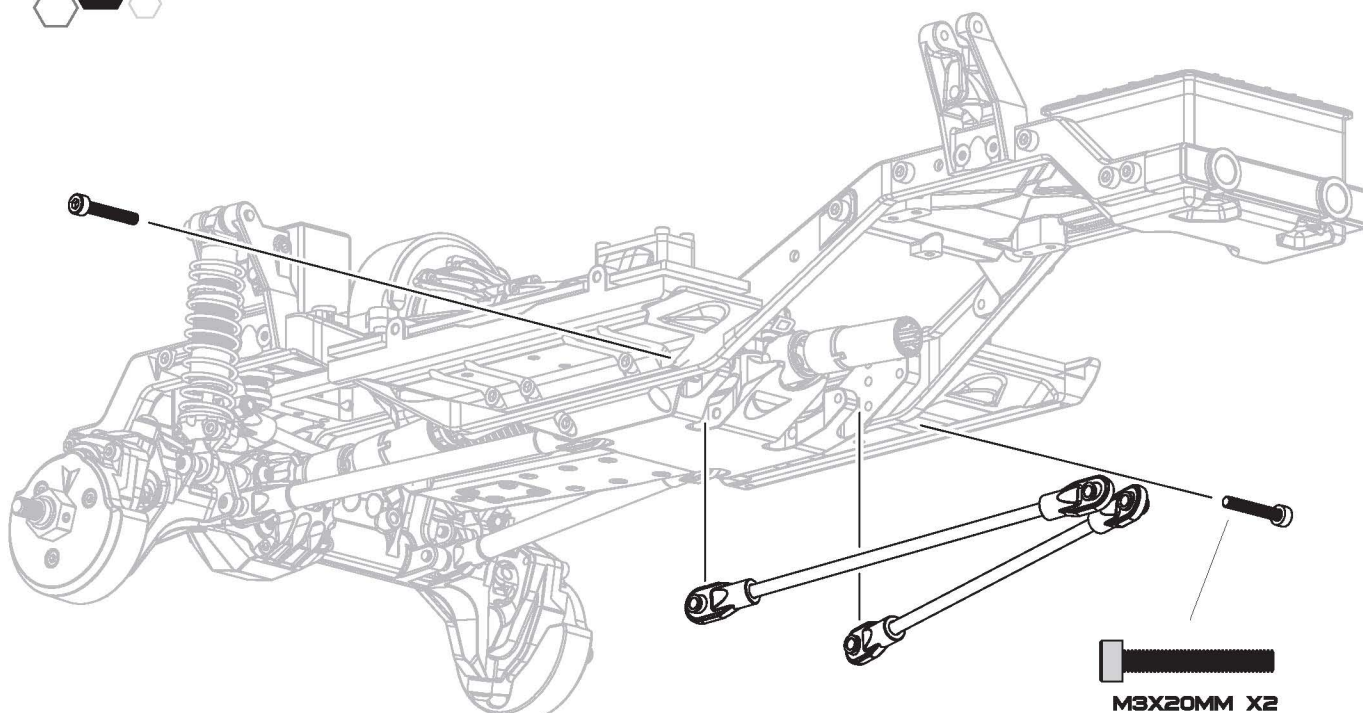


■ INSTALL FRONT AXLE

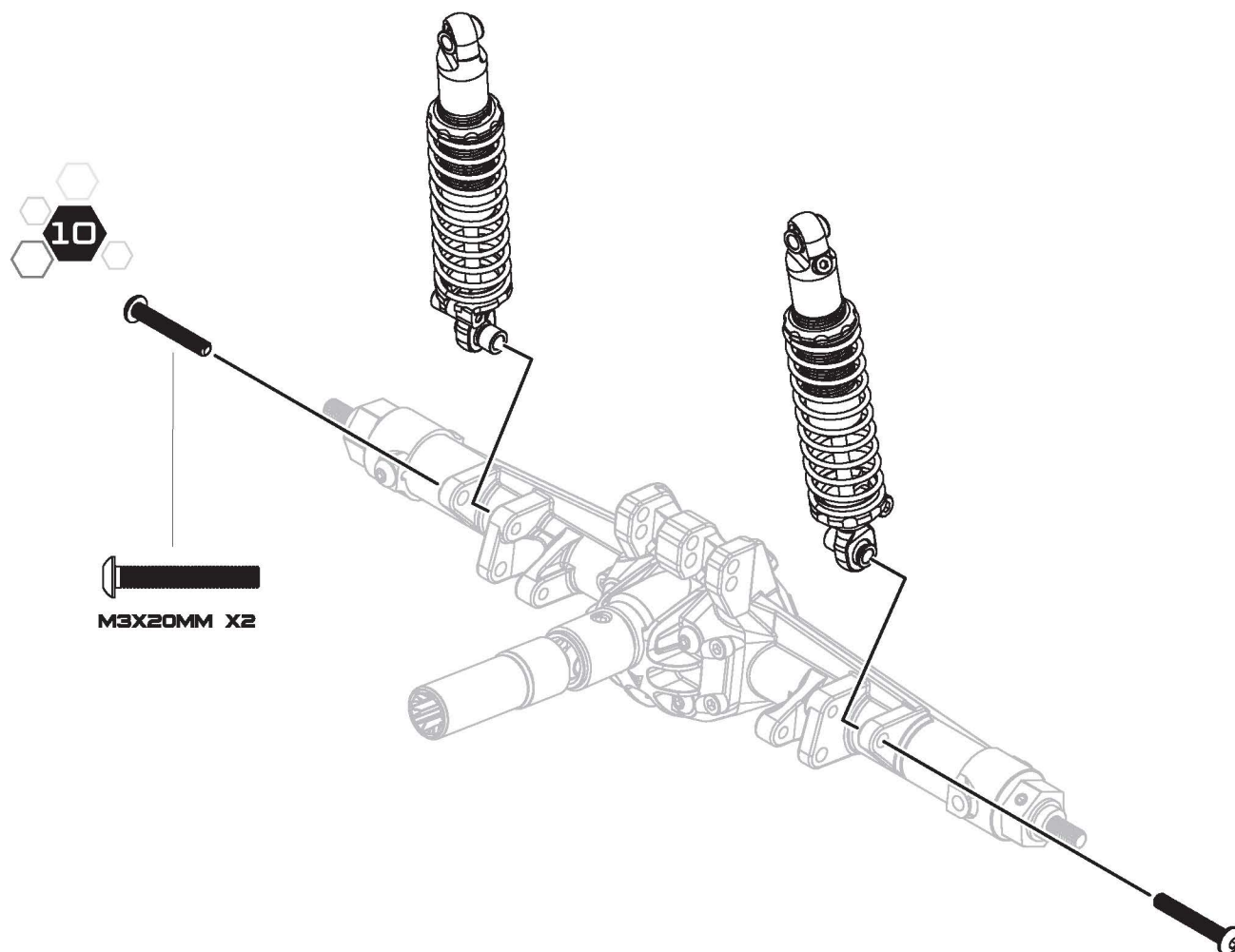
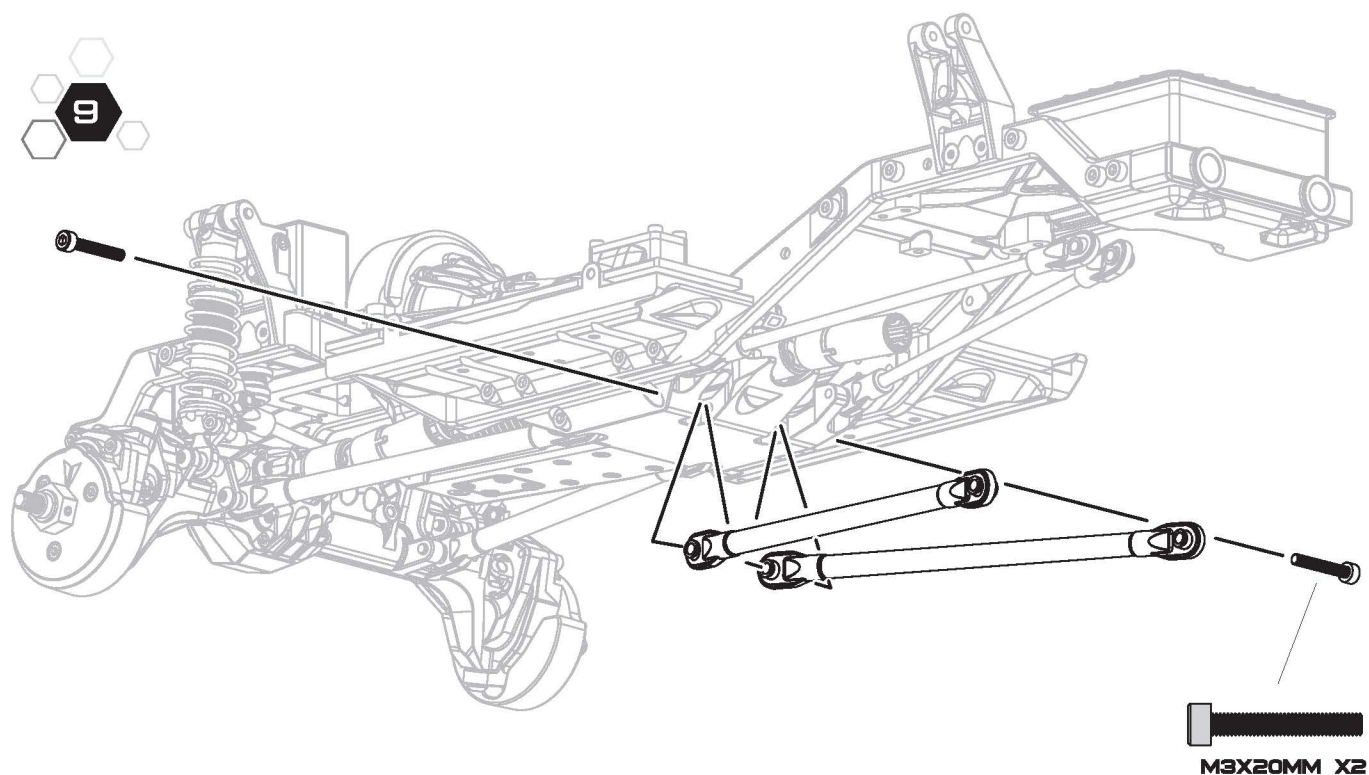
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8

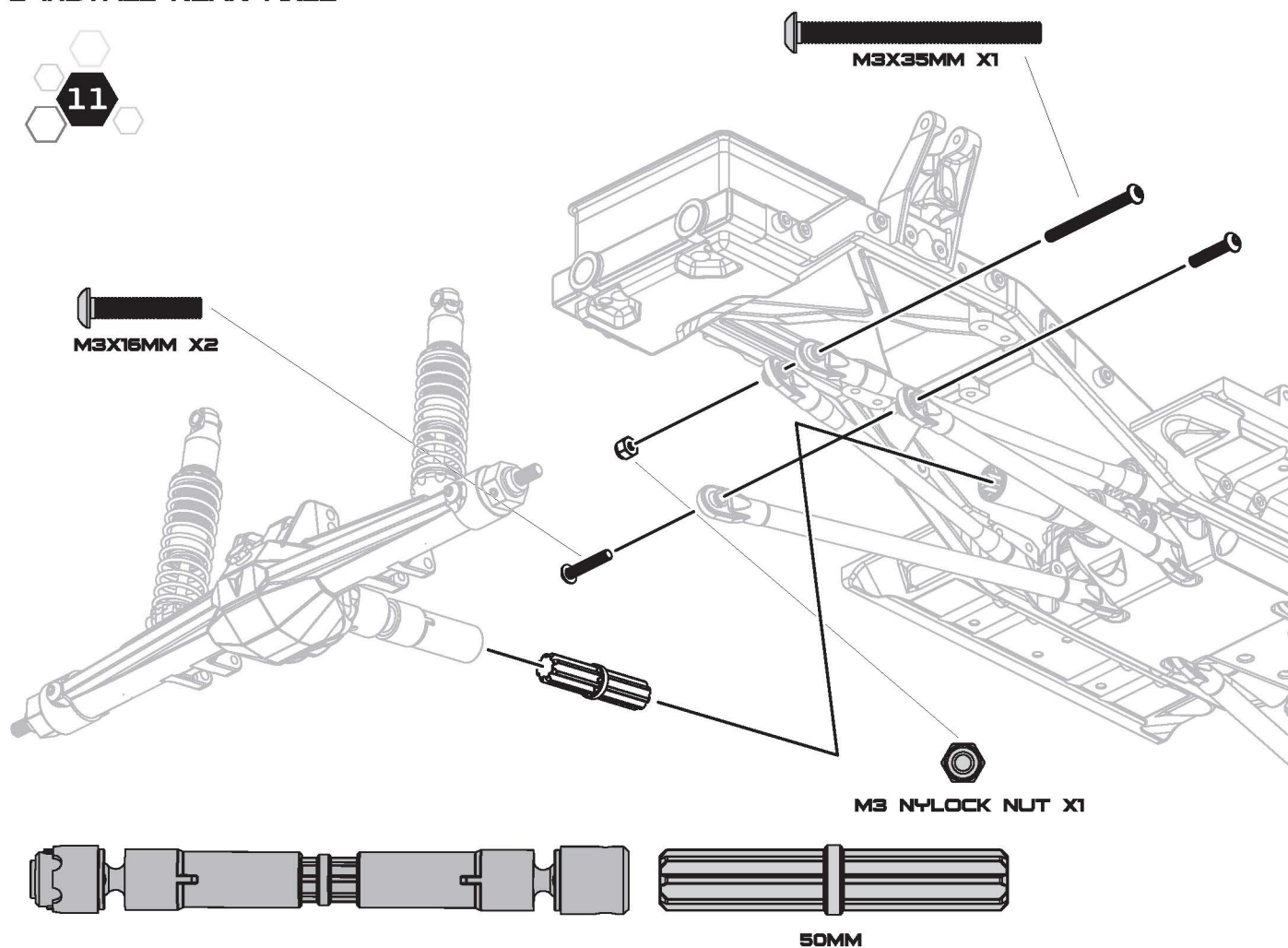


■ INSTALL REAR AXLE

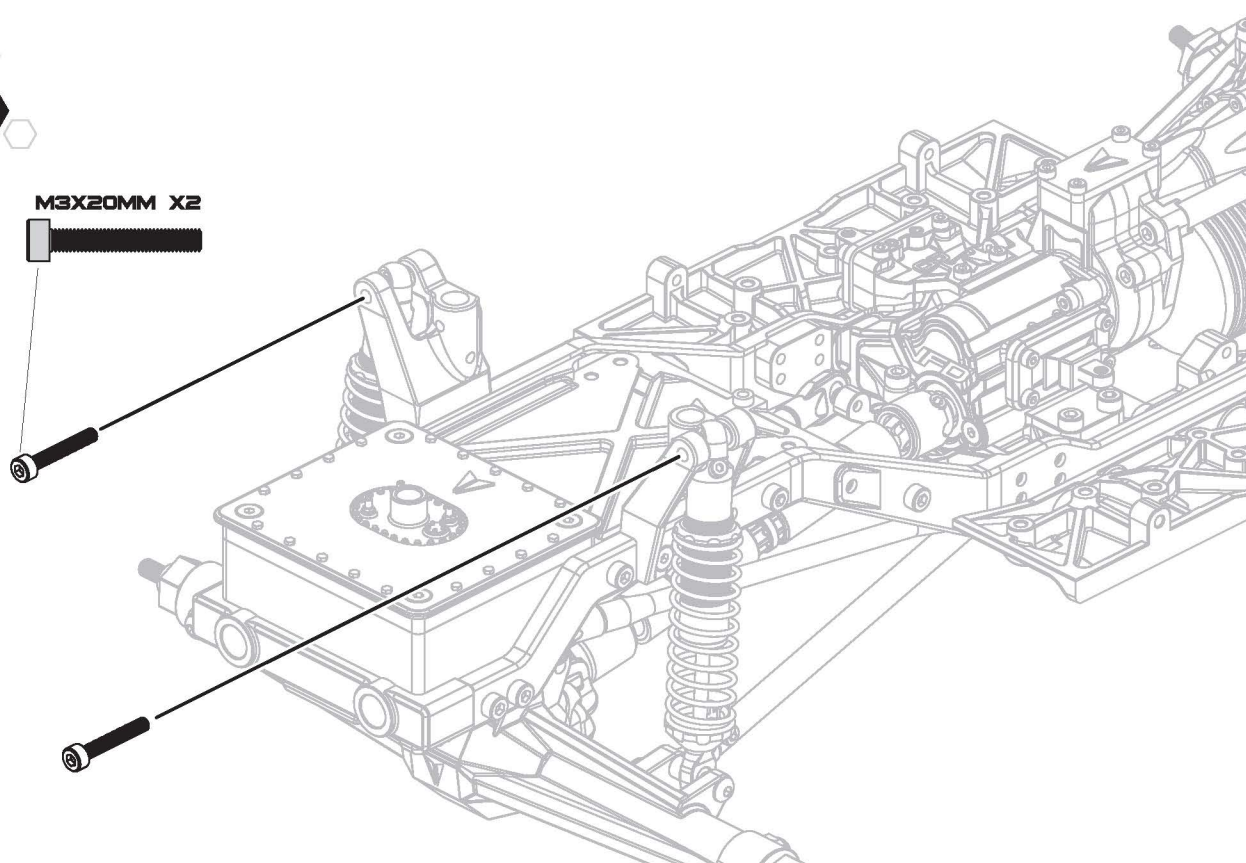


■ INSTALL REAR AXLE

11



12



■ BATTERY TRAY AND SHIFT LINKAGES OPEN BAG H

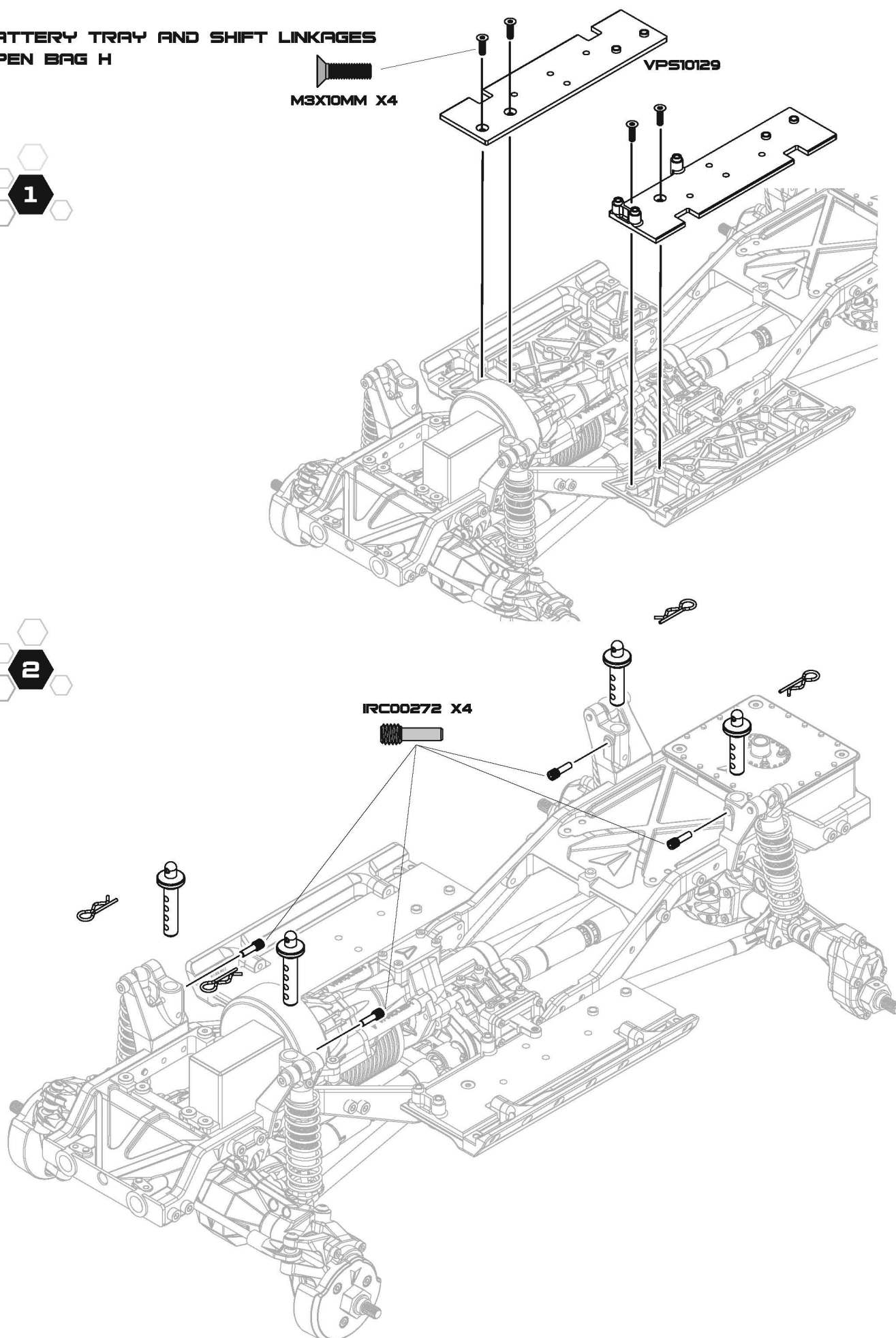
1

M3X10MM X4

VP510129

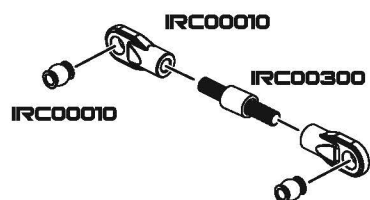
2

IRC00272 X4

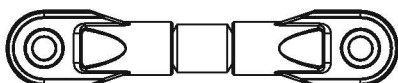


BATTERY TRAY AND SHIFT LINKAGES

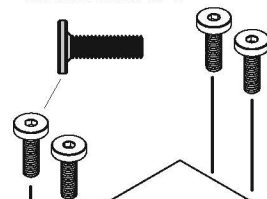
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X1 OD SHIFT LINKS



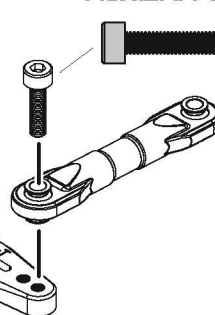
M3X10MM X4



*NOTE DIRECTION OF SERVO
(SERVO NOT INCLUDED)

VP510129

M3X12MM X1



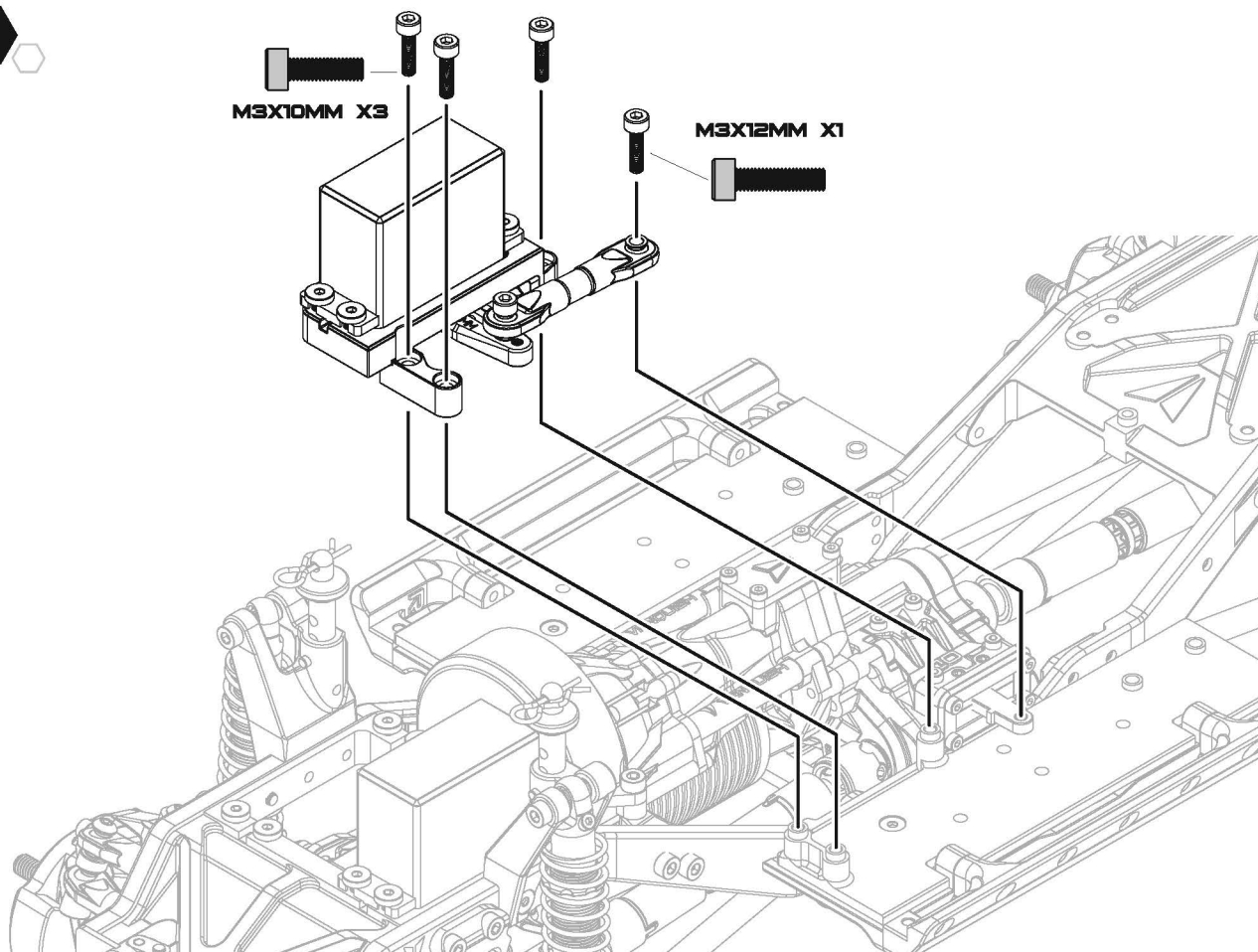
24MM SERVO
HORN REQUIRED
(NOT INCLUDED)

HARDWARE FROM SERVO
(NOT INCLUDED)

4

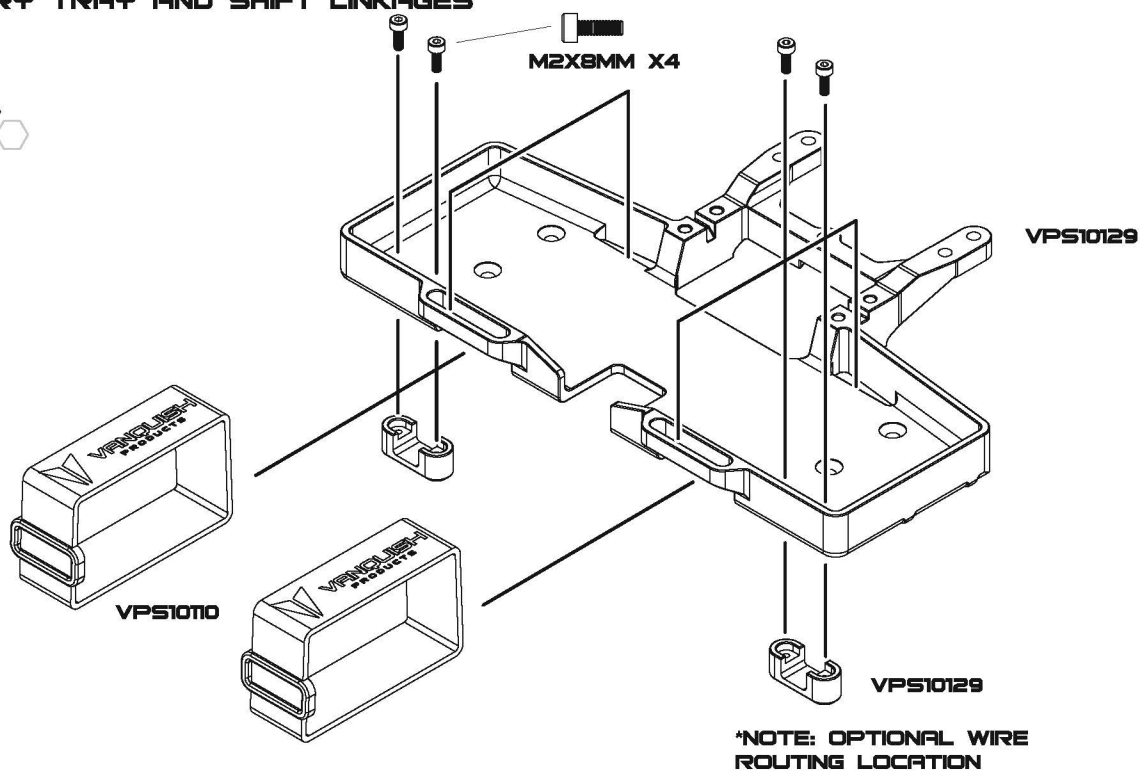
M3X10MM X3

M3X12MM X1

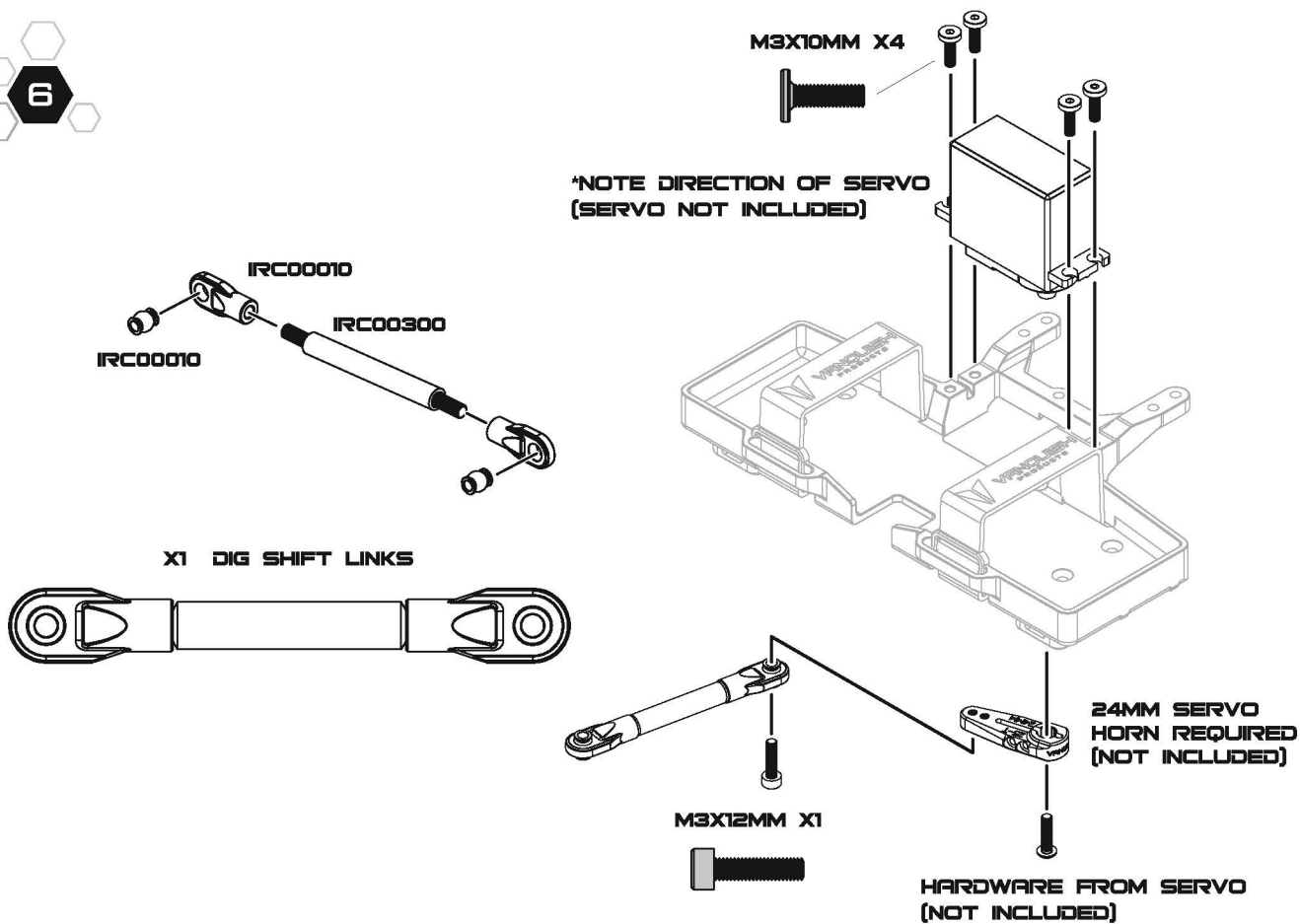


BATTERY TRAY AND SHIFT LINKAGES

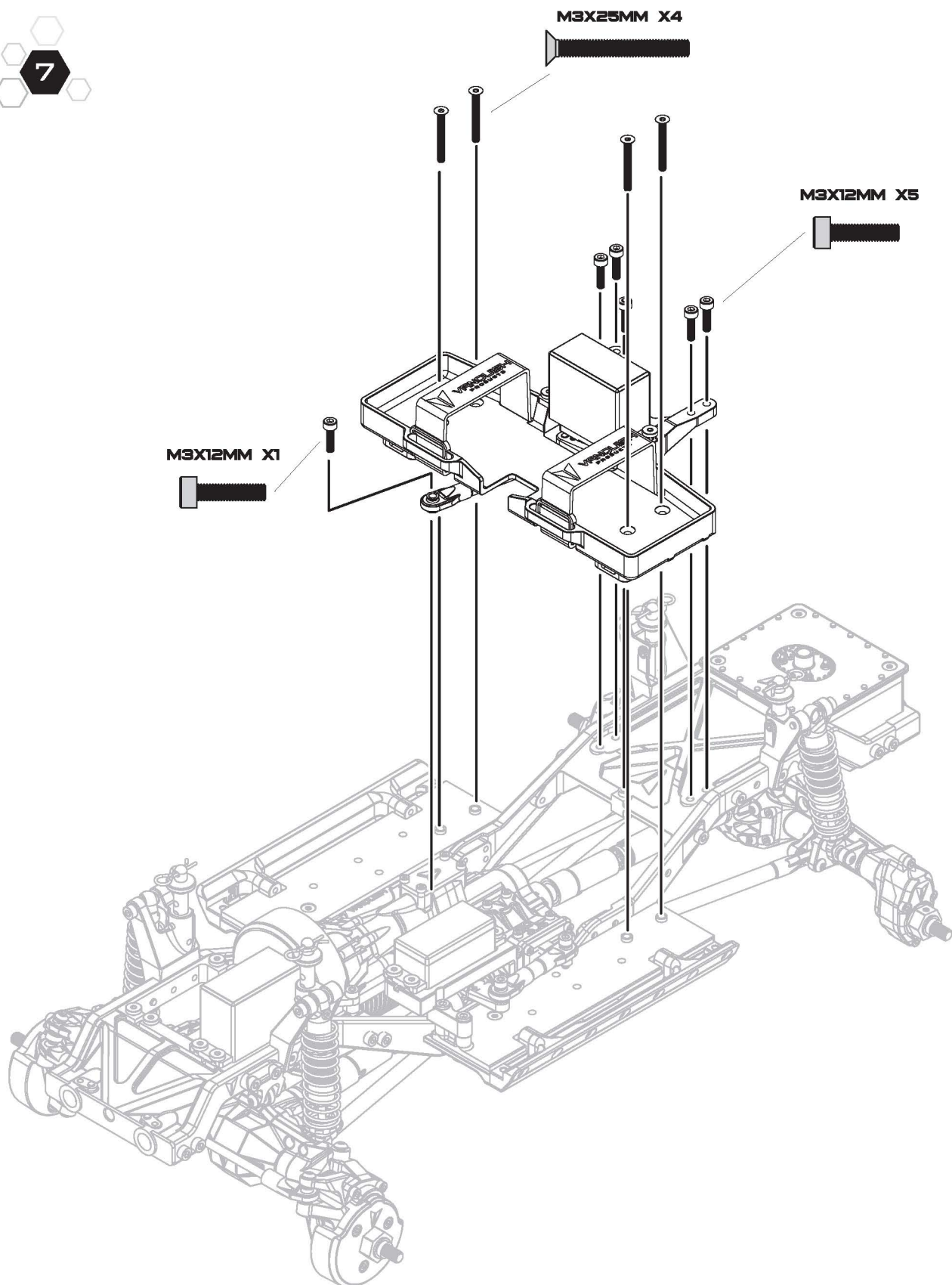
5



6



BATTERY TRAY AND SHIFT LINKAGES



PARTS LIST

IRC00013	PRO ROD ENDS WITH PIVOT BALLS (12)	VPS08335	5MM NON-FLANGED WHEEL NUTS
IRC00220	INCISION DRIVESHAFT SET	VPS08353	PORTAL OVERDRIVE GEAR SET (28T/20T)
IRC00230	ISD10 DRIVESHAFT SET	VPS08354	PORTAL STANDARD GEAR SET (30T/18T)
IRC00231	ISD10 REPLACEMENT PARTS TREE	VPS08363	PORTAL REAR AXLE SHAFTS
IRC00260	12T 32P PINION	VPS08600	F10 PORTAL FRONT AXLE SET
IRC00261	13T 32P PINION	VPS08601	F10 PORTAL REAR AXLE SET
IRC00262	14T 32P PINION	VPS08604	F10 PORTAL FRONT HOUSING
IRC00263	15T 32P PINION	VPS08605	F10 PORTAL REAR HOUSING
IRC00264	16T 32P PINION	VPS08606	F10 PORTAL AXLE COMPONENTS
IRC00265	17T 32P PINION	VPS08607	F10 PORTAL AXLE KNUCKLES
IRC00270	INCISION MOTOR PLATE CAPHEAD WASHER	VPS08608	F10 PORTAL VDI
IRC00271	INCISION KINGPIN SHOULDER SCREWS (4)	VPS08609	F10 PORTAL FRONT AXLE BRASS TUBES
IRC00272	M4 SCREW SHAFT (10)	VPS08610	F10 PORTAL REAR AXLE BRASS TUBES
IRC00273	BODY PINS (10)	VPS08611	F10 PORTAL REAR AXLE SHAFTS
IRC00275	WASHER HEAD SCREW (4)	VPS08612	F10 PORTAL FRONT STUB SHAFTS
IRC00403	52T 32P SPUR GEAR	VPS08613	F10 PORTAL REAR STUB SHAFTS
IRC00402	56T 32P SPUR GEAR	VPS10110	VANQUISH VELCRO STRAP
IRC00500	S8E 80MM SHOCK SET	VPS10112	VS4-10 FRAME RAIL (2)
IRC00501	S8E 90MM SHOCK SET	VPS10113	VS4-10 BODY POST SET
IRC00502	S8E SHOCK MOLDED COMPONENTS	VPS10114	VS4-10 SHOCK TOWER SET (2 PAIR)
IRC00507	S8E SHOCK REBUILD KIT	VPS10123	VS4-10 CHASSIS SLIDER MOUNTS WITH UNIVERSAL SLIDERS
IRC00509	S8E UPPER AND LOWER SHOCK PIVOT BALL SET	VPS10126	VS4-10 CHASSIS BRACES / SERVO MOUNT
IRC00512	S8E 80MM SPRING SET	VPS10129	VS4-10 MOLDED BATTERY AND ELECTRONIC TRAYS
IRC00513	S8E 90MM SPRING SET	VPS10131	VS4-10 MACHINED PANHARD MOUNT
IRC00514	S8E MACHINED SHOCK CAP Black	VPS10142	VS4-10 VFD BEARING PLATE SET 30T OVERDRIVE
IRC00515	S8E MACHINED SHOCK CAP Orange	VPS10144	VS4-10 VFD TRANSMISSION HOUSING
IRC00516	S8E MACHINED SHOCK CAP Blue	VPS10148	VS4-10 VFD MACHINED MOTOR PLATE
IRC00517	S8E MACHINED Spring COLLAR SET Black	VPS10151	VS4-10 VFD ALUMINUM TRANS POST
IRC00518	S8E MACHINED Spring COLLAR SET Orange	VPS10200	VFD TWIN TRANSMISSION KIT
IRC00519	S8E MACHINED Spring COLLAR SET Blue	VPS10201	VFD TWIN COMPONENTS MOLD
IRC00528	S8E 80MM SHOCK BODY HARD ANODIZED	VPS10205	VFD TWIN SHIFTING COMPONENT SET
IRC00529	S8E 90MM SHOCK BODY HARD ANODIZED	VPS10206	VFD TWIN SHAFT SET
IRC00553	S8E MACHINED PISTON - BOLT ON	VPS10207	E-5 CLIP
VPS07084	12MM PORTAL HEX	VPS10209	VFD SLIPPER LOCKOUT SET
VPS08070	6 HOLE SPOOL / LOCKER	VPS10210	VFD TWIN MACHINED GEAR SET
VPS08330	30T/8T HYPOID GEAR SET	VPS10352	S8E 80MM SHOCK SHAFT W/SCREW ON PISTON
VPS08331	33T/8T HYPOID GEAR SET		

GEAR RATIO CHART

Axle Ratio: 5.25

Rear Ratio without spur/pinion: 16.5

Front Ratio Standard 6.5% OD without spur/pinion: 15.5

Front Ratio High 46% OD without spur/pinion: 10.3

Note: Not all Spur and Pinion combinations are compatible

32P Front Standard OD 6.5% Output Drive Ratio

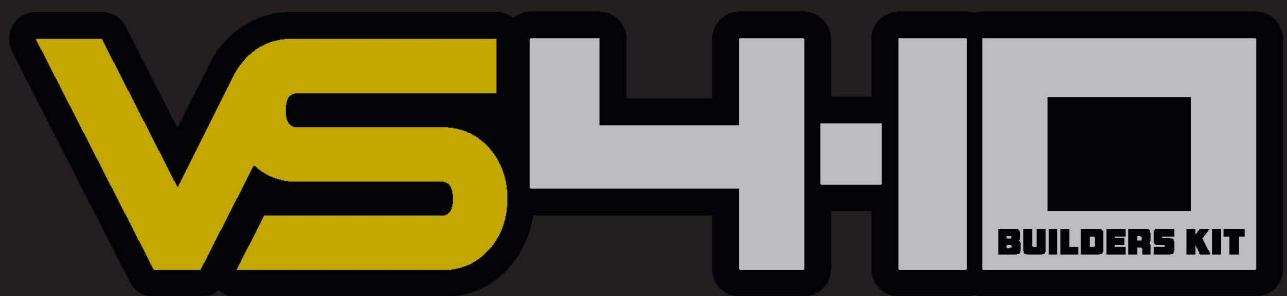
	Spur Gear				
Pinion	48	50	52	54	56
11	67.56	70.37	73.19	76.00	78.82
12	61.93	64.51	67.09	69.67	72.25
13	57.16	59.55	61.93	64.31	66.69
14	53.08	55.29	57.50	59.72	61.93
15	49.54	51.61	53.67	55.74	57.80
16	46.45	48.38	50.32	52.25	54.19
17	43.71	45.54	47.36	49.18	51.00

32P Rear output Ratio

	Spur Gear				
Pinion	48	50	52	54	56
11	72.06	75.06	78.07	81.07	84.07
12	66.06	68.81	71.56	74.31	77.07
13	60.98	63.52	66.06	68.60	71.14
14	56.62	58.98	61.34	63.70	66.06
15	52.85	55.05	57.25	59.45	61.65
16	49.54	51.61	53.67	55.74	57.80
17	46.63	48.57	50.51	52.46	54.40

32P Front High OD 46% output Ratio

	Spur Gear				
Pinion	48	50	52	54	56
11	45.04	46.92	48.79	50.67	52.55
12	41.29	43.01	44.73	46.45	48.17
13	38.11	39.70	41.29	42.87	44.46
14	35.39	36.86	38.34	39.81	41.29
15	33.03	34.40	35.78	37.16	38.53
16	30.96	32.25	33.54	34.83	36.12
17	29.14	30.36	31.57	32.79	34.00



1:10 SCALE HIGH PERFORMANCE 4WD PLATFORM



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