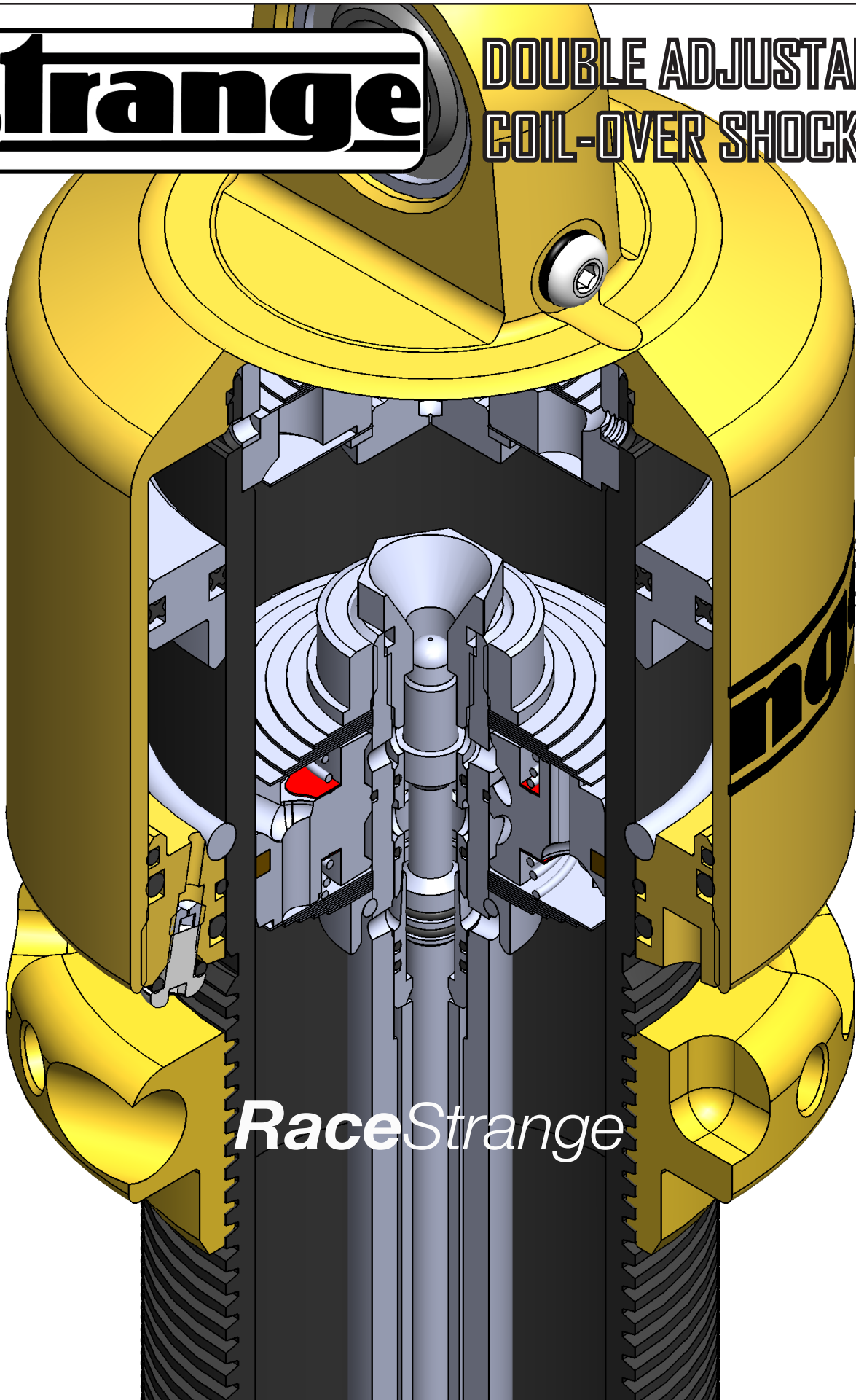


**Strange**

**DOUBLE ADJUSTABLE  
COIL-OVER SHOCKS**



*Race Strange*

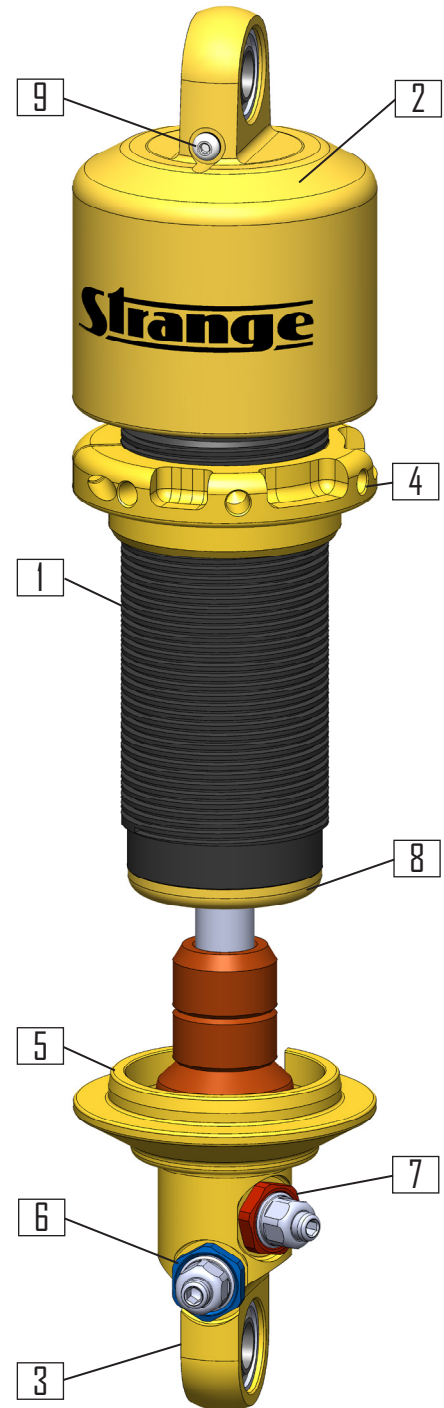
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# Strange

## TERMINOLOGY

- Bump** Also called , compression or jounce. When the shock is traveling, with the spherical bearings getting closer. Measurement of minimum length is spherical bearing center to center at the fully compressed position.
- Rebound** Also called droop or extension, when the shock is traveling with the spherical bearings getting farther apart. Measurement of full extension is when the spherical bearings are farthest apart.
- 1. Shock Body** The black hard anodized threaded portion of the shock assembly.
- 2. Base Cap** Also called body cap, located at the end of the shock body with a spherical bearing installed.
- 3. Eye Mount** Also called eyelet or rod end, this is the assembly at the end of the piston rod.
- 4. Spring Seat** A large nut that is threaded to hold and to adjust the spring height.
- 5. Eye mount spring seat** Is used to position the stationary end of the spring, this is a fixed position.
- 6. Bump Adjuster (blue)** Also called compression adjuster or jounce adjuster, used to adjust the compression forces.
- 7. Rebound Adjuster (red)** Also called Extension adjuster, used to adjust the rebound forces.
- 8. Rod Guide** The area on the shock that the piston rod exits and goes into the shock body, contains the seal and piston rod bearing.
- 9. Gas Fill Screw** The cover screw for the self sealing rubber valve.



# Strange

## INTRODUCTION

Strange Engineering brings advanced shock technology into the Drag Racing market. As racers become more knowledgeable in chassis tuning, many are seeking qualities normally reserved for tier one vehicles used in other forms of motorsports. These double adjustable shocks address the internal events that normally occur during use, drastically reducing undesired changes in shock dampening.

- Monotube construction is lighter (and less unsprung weight) than a twin tube design.
- Dissipates heat more efficiently.
- The shock features a hollow shock rod, which has less inertia making it more responsive to changes in direction; In addition, the shaft is optimally hardened for increased strength, chromed, and super finished to provide superior life and reduce both deflection and friction.
- The ultra low friction guide and seal are self aligning that reduces low speed abrasion and wear that occurs during side loading and temperature changes.
- The large 48mm piston is manufactured from billet aluminum, hard anodized, and Teflon® coated.
- The larger piston area achieves higher dampening forces with lower internal pressures.
- A thin Teflon® coated piston band further reduces friction while allowing a straighter port design that minimizes changes in fluid direction.

The result is faster frequency response and lowered hysteresis, which permits a more progressive dampening force without the downside of additional lag that would normally accompany it. The extension and compression oil paths are completely sealed from each other eliminating any cross talk between them.

### Distinguishing Features

#### **Piggyback**

- Easily converted to air adjustable
- Accepts longer springs
- Shorter dead length

#### **Inline**

- Shorter oil path for quicker compression response time
- More compact design (Internal Reservoir)



#### **Inline Reservoir**

Part Number	Extended Length	Collapsed Length without Bumper	Recommended Ride height	Stroke	Suggested Spring Length
S7210I	25.68"	16.30"	18.50"-22.50"	9.38"	14"-16"
S7209I	23.45"	15.20"	17.50"-20.50"	8.25"	14"
S7207I	19.59"	13.26"	15.25"-16.50"	6.33"	12"
S7205I	16.69"	11.81"	13.25"-14.25"	4.88"	10"
S7204I	15.30"	11.14"	12.50"-13.50"	4.16"	8"
S7203I	13.79"	10.36"	11.50"-12.25"	3.43"	7"

#### **Integral (Piggyback) Reservoir**

Part Number	Extended Length	Collapsed Length without Bumper	Recommended Ride height	Stroke	Suggested Spring Length
S7210S	25.15"	15.80"	18"-22"	9.35"	14"-16"
S7209S	22.95"	14.70"	17"-20"	8.25"	14"-16"
S7207S	19.00"	12.80"	14.75"-16.00"	6.20"	12"-14"
S7205S	16.28"	11.28"	12.75"-13.75"	5.00"	10"-12"
S7204S	14.94"	10.64"	12"-13"	4.30"	8"-10"
S7203S	13.38"	9.85"	11"-11.75"	3.53"	7"-8"

#### **Bearing options**

Part Number	Bearing Width
S5000KU	1/2"
S5000KT	1"

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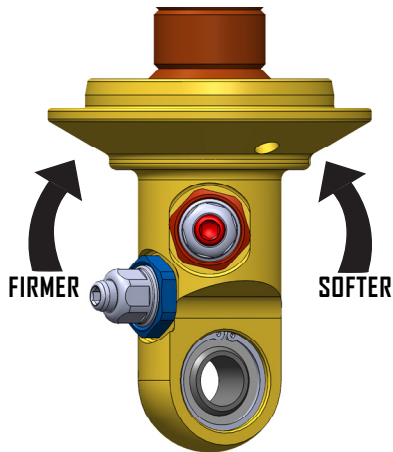
## ADJUSTERS

### *In-Line Reservoir Double Adjustable*

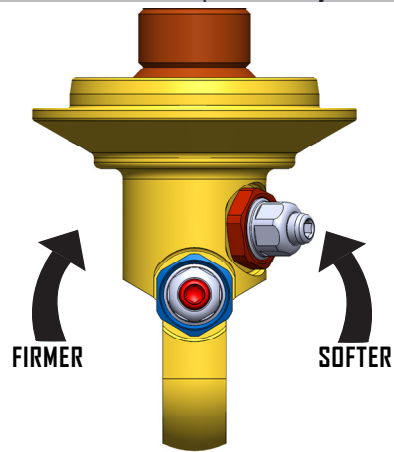
- The Compression and Rebound rotational adjusters are located on the Eye Mount at the end of the piston rod.
- Each adjuster has 25 positions and uses a 5/32nds hex wrench.
- The adjuster closest to the Eye Mount spherical bearing is the compression adjuster.
- The adjuster closest to the Rod Guide is the rebound adjuster.
- The detented clicks are referred to as 1 through 24.
- Rotating the 5/32nds hex adjuster clockwise will increase dampening force.
- Rotating the 5/32nds hex adjuster counter-clockwise will decrease dampening force.

**WARNING:** Do not rotate the 3/4 inch nut anchoring the 5/32nds hex nut. This calibration nut is already set.

In-Line Shock: Rebound adjustment



In-Line Shock: Compression adjustment

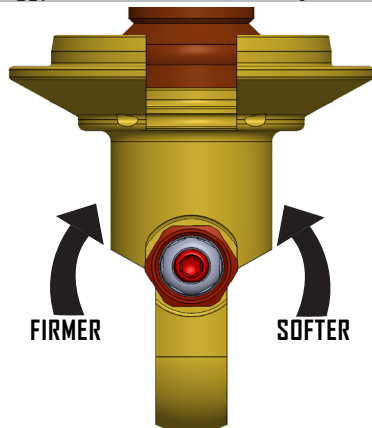


### *Integral (Piggyback) Reservoir Double Adjustable*

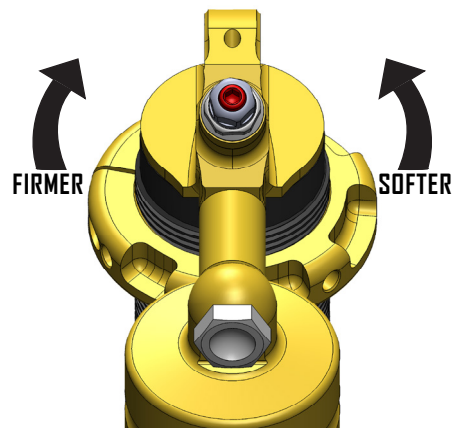
- The Compression rotational adjuster is located on the End Cap on the Shock Body with the reservoir attached.
- The Rebound rotational adjuster is located on the Eye Mount at the end of the piston rod.
- Each adjuster has 25 positions and uses a 5/32nds hex wrench.
- The detented clicks are referred to as 1 through 24.
- Rotating the 5/32nds hex adjuster clockwise will increase dampening force.
- Rotating the 5/32nds hex adjuster counter-clockwise will decrease dampening force.

**WARNING:** Do not rotate the 3/4inch nut anchoring the 5/32nds hex nut. This calibration nut is already set.

Piggy-back Shock: Rebound adjustment



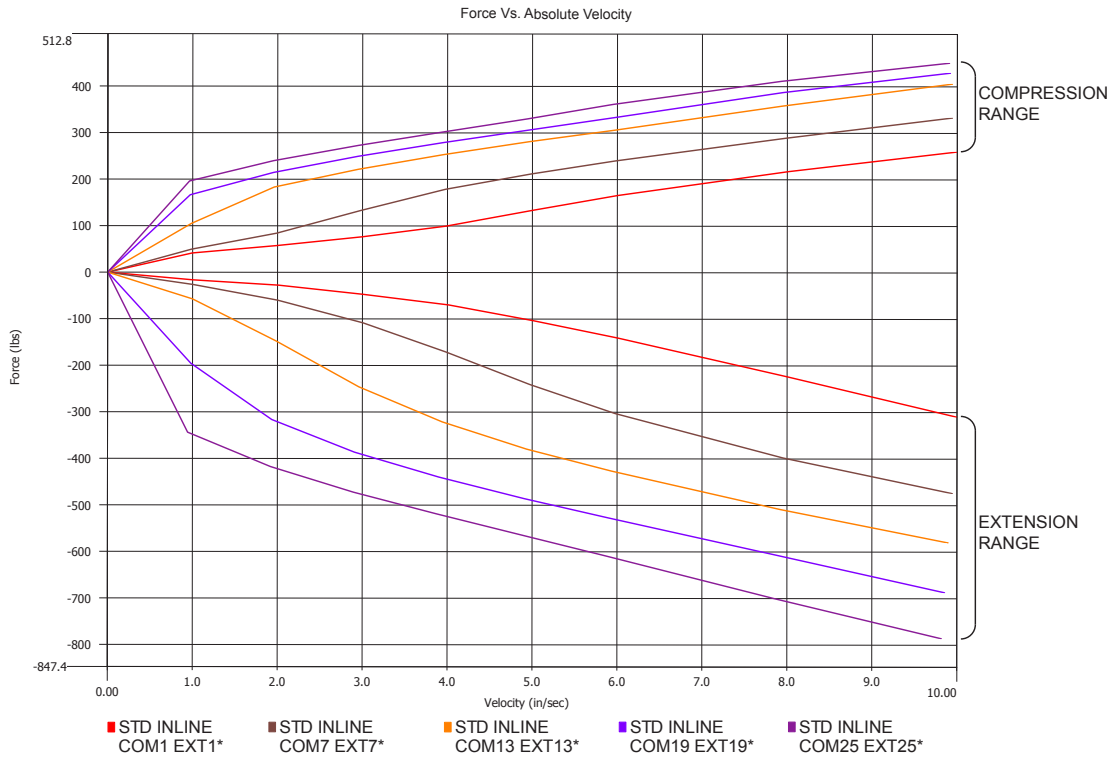
Piggy-back Shock: Compression adjustment



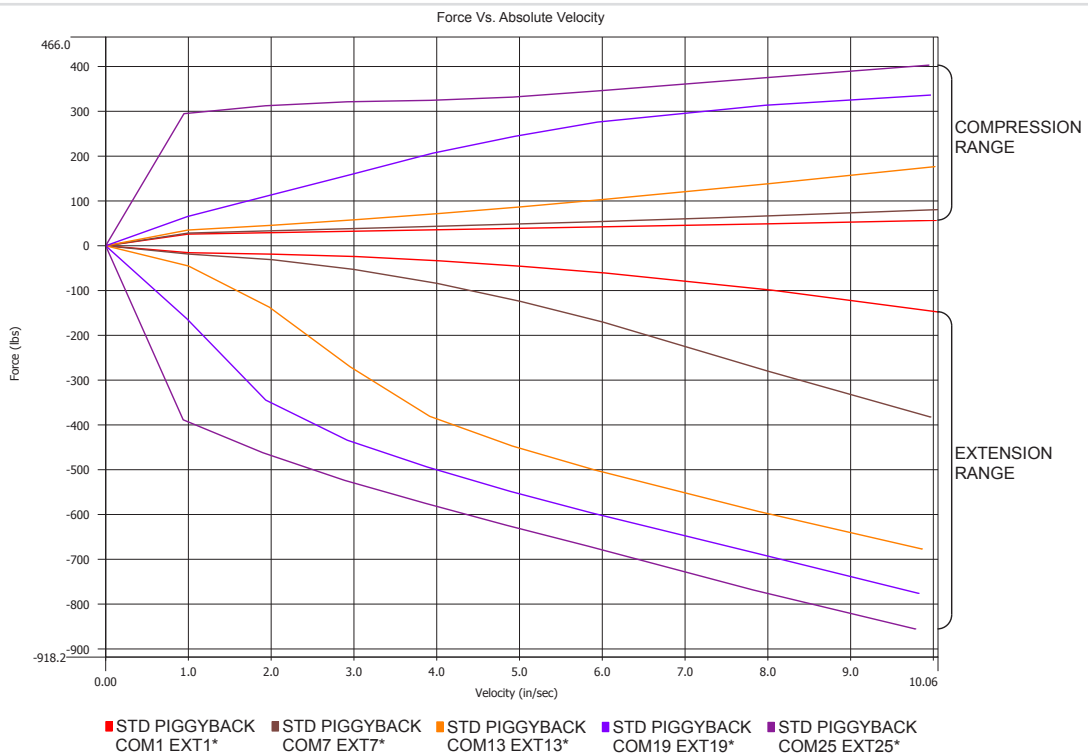


# SHOCK DYNO GRAPHS

The following graphs show the average resistance of the shock extension and compression forces as velocity increases.



## STANDARD INLINE SHOCK



## STANDARD PIGGYBACK SHOCK

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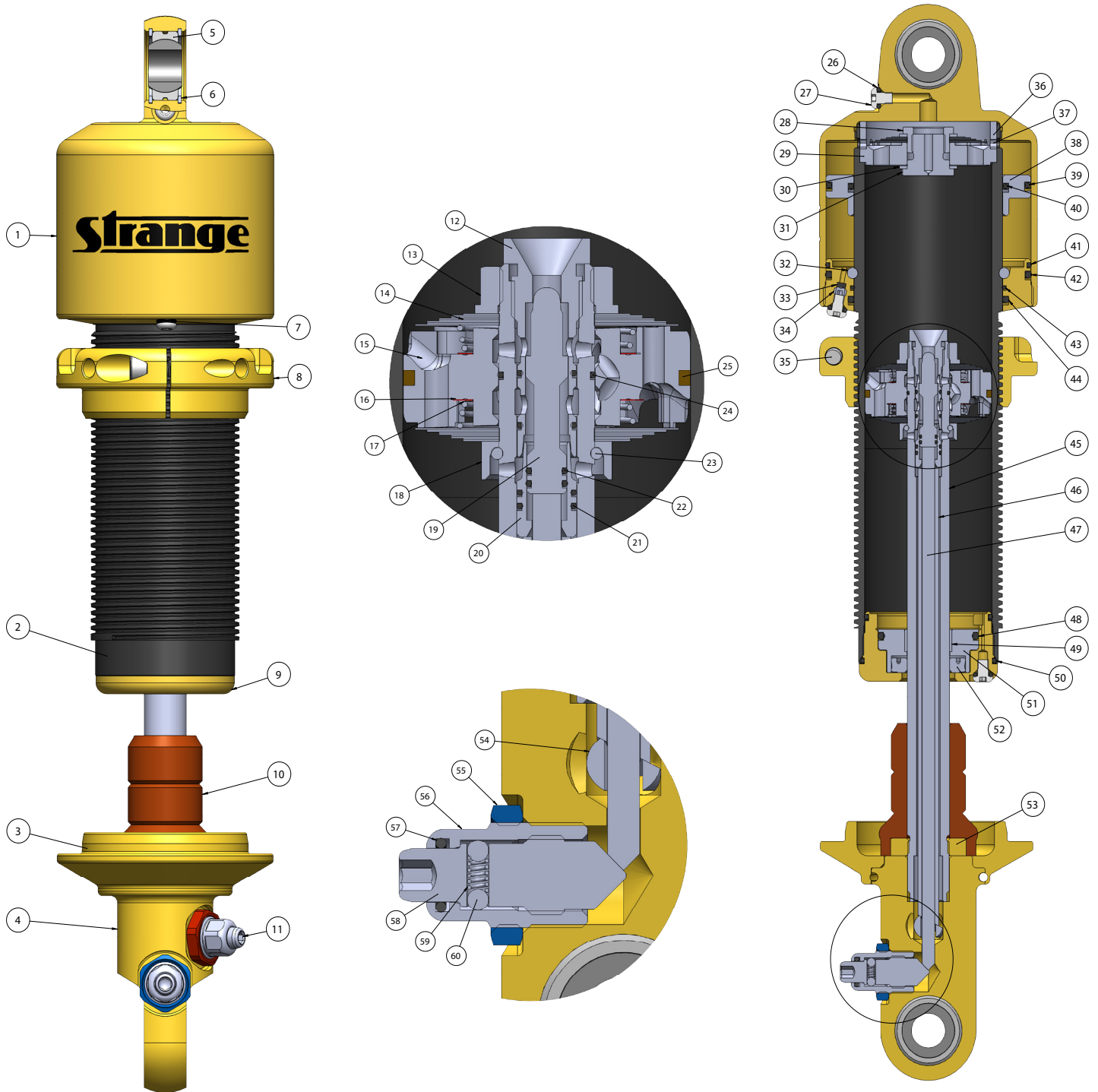
## INLINE PARTS LIST

Item Num.	Description	Quantity	Part Number
1	Base cup Annular style	1	SST301-X
2	Shock Body	1	SST303-XXXX
3	Top spring seat	1	SST128
4	Eye mount	1	SST212-XX
5	Spherical bearing	2	S5000KT
6	Snapping	4	S5000L
7	Resevior cap	1	SST306
8	Spring seat nut	1	SST129
9	Enclosure Cap	1	SST104
10	Compression bumper	1	SST350
11	Rebound adjuster screw	1	SST214
12	Rod jet	1	SST255
13	Piston Nut	1	SST244
14	Shims		SST1628.25
15	Piston	1	SST186
16	Check valve plate	2	SST171
17	Check valve spring	2	SST172
18	Rebound spacer	1	SST311
19	Needle- Inline	1	SST252
20	Adjuster Cup	1	SST248
21	1x8mm Buna O-ring	4	SST258
22	1x4mm Buna O-ring	2	SST229
23	Piston stop clip	1	SST232
24	1x13mm Buna O-ring	1	SST259
25	Piston Band 48mm bore	1	SST149
26	-007 Buna O-ring	3	SST157
27	8-32 x 1/4" BHCS SS	3	SST156
28	Base valve nut	1	SST265
29	Base valve	1	SST263-X
30	Shock spacer 0.858 dia	1	
31	Base valve screw	1	SST264
32	Retainer wire ring	1	SST308
33	A50 Durameter O-ring	1	SST160
34	8-32 X 7/64 HSS	1	SST159
35	1/4-20 X 3/4 SHCS		SST161
36	Base valve support ring	1	SST304
37	6-32 x 1/8" Set screw	2	SST158
38	Seperating piston	1	SST305
39	-149 Quad ring	1	SST315
40	-140 Quad ring	1	SST316
41	-039 O-ring	1	SST319
42	-149 O-ring	1	SST317
43	-035 Buna O-ring	1	ADC104D
44	-140 O-ring	1	SST318
45	Shock rod - Monotube	1	SST310-X
46	Adjuster tube	1	SST282-X
47	Push rod	1	S3800T-X
48	-125 O-ring	1	SST133
49	MB1608DU Bushing	1	SST348
50	#031 O-ring	2	S510P

Item Num.	Description	Quantity	Part Number
51	Guide for 16mm rod	1	SST101-16
52	16mm Enclosure cap seal	1	SST174-X
53	Jam nut 16mm	1	SST392
54	Rebound Adj Wedge	1	SST213
55	Eye Adjuster jam nut	2	SST220
56	Eye Adj Housing	2	SST215
57	Compression Adj screw	1	SST216
58	-011 Buna O-ring	2	SST152
59	Compression knob Spring	2	S5000W
60	3mm Chrome steel ball	4	S5000V

# Strange

## INLINE PARTS DIAGRAM





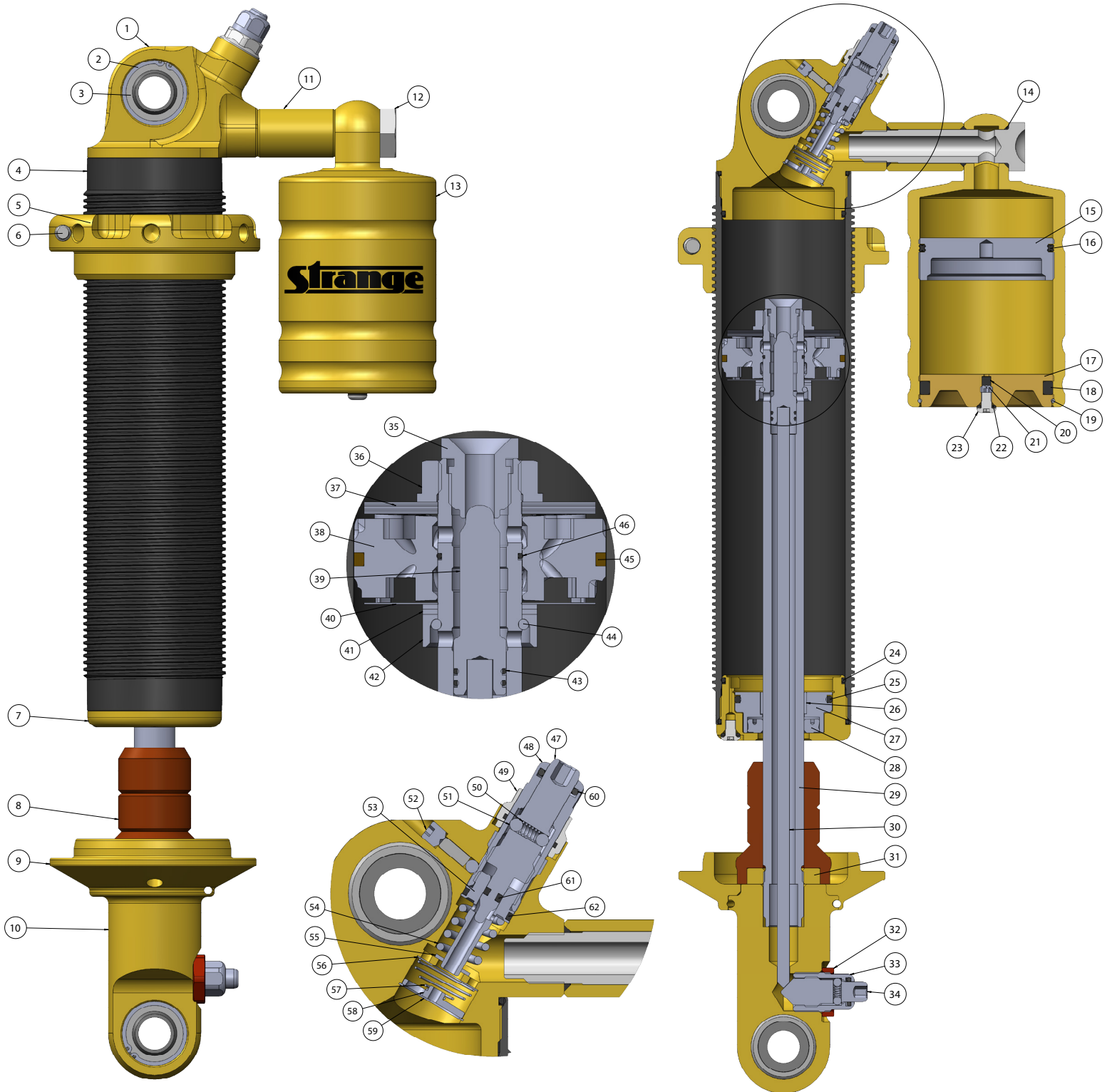
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## PIGGYBACK PARTS LIST

Item Num.	Description	Quantity	Part Number	Item Num.	Description	Quantity	Part Number
1	Basecup	1	SST260	51	3mm Chrome steel ball	5	S5000V
2	Snap ring #HOI-100	4	S5000L	52	10-24 X 3/16" Set Screw	1	SST274
3	Spherical bearing	2	S5000KT	53	Comp. high speed adj. cap	1	SST225
4	Shock body	1	SST103-XXXX	54	Repl. valve spring	1	S5000SR
5	Spring seat nut	1	SST129	55	Retainer disk	1	S5000SON
6	1/4-20 X 3/4 SHCS	1	SS161	56	Compression valve plate	1	SST230
7	Enclosure cap	1	SST104	57	Shock valve spring	1	S510L
8	Compression bumper	1	SST350	58	Retainer disc - Comp.chk.v	1	SST226
9	Top spring seat	1	SST128	59	Retainer ring	1	SST231
10	Eye mount	1	SST221	60	-011 Buna O-ring	1	SST152
11	Remote resevoir spacer	1	SST270	61	-004 Buna O-ring	1	SST278
12	Remote resevoir screw	1	SST269	62	-012 Buna O-ring	1	SST228
13	Remote resevoir	1	SST268				
14	-013 Buna O-ring	3	L7250H				
15	Seperaing Piston	1	SST266				
16	-134 Quad ring	1	SST271				
17	Resevoir Cap	1	SST267				
18	-326 Buna O-ring	1	SST272				
19	46x1.5mm Wire ring	1	SST273				
20	A50 Durameter 0.139" O-ring	1	SST160				
21	8/32" x 7/64" HHS	1	SST159				
22	-007 Buna O-ring	3	SST157				
23	8/32" x 1/4" BHCS SS	3	SST156				
24	#031 Buna O-ring	4	S510P				
25	-125 Buna O-ring	1	SST133				
26	MB1608DU Bushing	1	SST348				
27	Guide	1	SST101-X				
28	Seal	1	SST174-X				
29	Shock rod monotube	1	SST310-X				
30	Shock pushrod	1	S3800T-X				
31	16mm Jam nut	1	SST392				
32	Jam nut adjuster	1	SST220				
33	Eye adjuster housing	1	SST215				
34	Comp. adj. Needle	1	SST216				
35	Rod jet - Piggyback	1	SST253				
36	Piston nut	1	SST244				
37	Valve discs		SST1640.25				
38	Piston	1	SST186				
39	Needle - Piggyback	1	SST250				
40	Shim	1	SST1644.30				
41	16x22x1mm Shim	2	N/A				
42	Rebound spacer	1	SST311				
43	1x8mm Buna O-ring	2	SST258				
44	Piston stop clip	1	SST232				
45	Piston band	1	SST149				
46	1x13mm Buna O-ring	2	SST259				
47	Compression Adj. needle	1	SST224				
48	Comp. high speed adjuster	1	SST223				
49	Comp. high speed adj. nut	1	SST222				
50	Comp. knob spring	2	S5000W				

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## PIGGYBACK PARTS DIAGRAM



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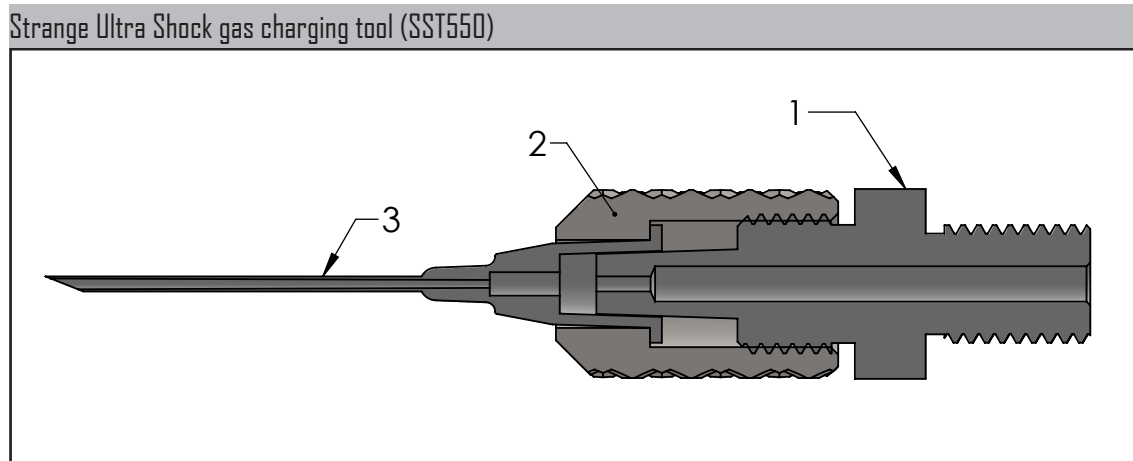
## GAS CHARGE TOOL PROCEDURE

Thank you for purchasing the Strange Ultra Shock Gas Charging Tool. This tool is designed for gas charged shocks that use the self sealing rubber valves. We recommend using Nitrogen for gas charging the shocks. Nitrogen tanks and regulators are available at welding supply stores. This tool is designed to be threaded into a gas charging tool or used with a tire inflation chuck.

### INSTRUCTIONS FOR USE:

1. Set your Nitrogen Tank regulator to 50 psi
2. Remove the gas filling screw on the Strange Ultra shock
3. Remove the cap from the schrader valve tool and the needle safety cap.
4. If using a tire chuck for gas charging insert the gas charging tool into the rubber seal.
5. If using a gas schrader valve charger, thread the tool into the charger needle tool.
6. Insert the needle into the rubber seal valve as straight as possible.
7. Pressurize the charging needle, shock must be fully extended during and after charge.
8. Turn off pressure and pull the needle from the shock.
9. Replace the filling screw on the shock and the protective safety cap on the needle.

**Note:** Check shock for pressure by compressing and releasing to watch shock extend.



**WARNING:** Wear eye protection, never point the needle towards yourself or others.

Item Number	Description	Quantity	Part Number
1	Gas fill adapter	1	SST550A
2	Gas fill cap	1	SST550B
3	21G x 1-1/2" Needle	1	SST550C