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## CORKSPORT POWER SERIES RACEPIPE MAZDA RX-8



**WARNING:** MAKE SURE VEHICLE IS COMPLETELY COOLED DOWN PRIOR TO STARTING INSTALLATION. EXHAUST SYSTEMS AND ESPECIALLY CATALYTIC CONVERTERS CAN GET HOT ENOUGH TO SERIOUSLY INJURE YOU. USE A FAN TO COOL OFF THE EXHAUST SYSTEM AND THE CATALYST.



**WARNING:** THOROUGHLY READ THE PRECAUTIONS AND INSTRUCTIONS THAT COME WITH YOUR FLOOR JACK AND JACKSTANDS AS WELL AS YOUR VEHICLE'S OWNERS MANUAL FOR APPROPRIATE JACKING METHODS AND JACKING / SUPPORT POINTS. ALWAYS DOUBLE UP SUPPORT ON A VEHICLE - JACK STANDS AND FLOOR JACK /ETC.



**NOTE:** WHEN UNDER THE CAR, YOU SHOULD BE WEARING MECHANICS GLOVES OR SOME SORT OF HAND PROTECTION FROM CUTS - THE QUILTED ALUMINUM HEATSHIELDS ON THE RX-8 HAVE DECEPTIVELY SHARP EDGES.



**NOTE:** THESE INSTRUCTIONS WERE WRITTEN FOR REFERENCE ONLY AND THE USE OF A FACTORY SERVICE MANUAL IS RECOMMENDED. PLEASE READ THESE INSTRUCTIONS THOROUGHLY PRIOR TO STARTING INSTALLATION. THESE PRODUCTS ARE SOLD FOR USE OFF PUBLIC ROADS. ANY PRODUCT THAT REMOVES THE VEHICLE EMISSIONS COMPONENTS (LIKE CATALYTIC CONVERTERS) OR EFFECT FUNCTIONALITY OF VEHICLE EMISSION CONTROLS MUST NOT BE USED ON PUBLIC ROADS AND HIGHWAYS.





<b>PART NUMBER:</b> RX8-6-114 <b>TIME ESTIMATE:</b> 45-60 MIN. <b>WRENCH RATING:</b> 2/5	<b>MODEL</b> RX-8	<b>YEAR</b> 2004-2009	<b>TRIM</b> ALL
<b>TOOLING LIST:</b> 3/8 DRIVE RATCHET 10MM LONG SOCKET 14MM LONG SOCKET 17MM LONG SOCKET 14MM END WRENCH 17MM END WRENCH 22MM END WRENCH LG. FLATHEAD SCREWDRIVER HAMMER SILICONE SPRAY (WD40) PENETRATING OIL ANTI-SEIZE PASTE VISE GRIP PLIERS <b>OPTIONAL TOOLING:</b> O2 SENSOR SOCKET CHANNEL LOCK PLIERS		<b>PARTS LIST:</b> CORKSPORT RACEPIPE 2x M10x1.25 70MM HEX BOLTS 3x M10x1.25 35MM HEX BOLTS 7x M10x1.25 HEX NUTS 3x M10 LOCK WASHERS 2x M10 LARGE FLAT WASHERS 2x M10 STANDARD FLAT WASHERS	



# INSTALLATION INSTRUCTIONS:

## CORKSPORT POWER SERIES RACEPIPE FOR MAZDA RX-8

### HOW THE INSTRUCTIONS WORK

TO BEST COVER ALL OF OUR CUSTOMERS EXPERIENCE LEVELS AND FAMILIARITY WITH THE SYSTEMS ON THEIR MAZDA, WE HAVE BROKEN OUR INSTRUCTIONS DOWN INTO NUMBERED STEPS, EACH OF WHICH HAS THE CORE INFORMATION IN THE HEADER WITH ADDITIONAL DETAIL AS NEEDED DEPENDING ON YOUR EXPERIENCE. IF YOU HAVE A HIGH LEVEL OF EXPERIENCE, YOU CAN JUST USE THE CHECKLIST BELOW AND THEN SKIP TO THE STEP NUMBER WHERE YOU NEED HELP OR ASSISTANCE. VIDEO ASSISTANCE MAY ALSO BE AVAILABLE FOR CERTAIN STEPS AND IS INDICATED BY THE HD ICON:  AREAS WHERE THERE IS A SAFETY CONCERN ARE INDICATED BY THE WARNING ICON:  CAUTIONARY AREAS (WHERE PARTS ARE FRAGILE, ETC) ARE INDICATED BY THE CAUTION ICON:  KEY TIPS ARE INDICATED WITH THE LIGHT BULB ICON: 

### OVERVIEW/CHECKLIST:

THIS IS AN OVERVIEW OF EACH OF THE STEPS OF THE BUILD. YOU CAN USE THIS AS A REFERENCE AND A CHECKLIST AS YOU BUTTUN UP THE WORK ON THE CAR.

- 1: SUPPORT CAR ON JACK AND JACKSTANDS OR A LIFT AND SPRAY BOLTS AND O2 SENSOR WITH PENETRATING OIL.
- 2A: REMOVE O2 SENSOR HEATSHIELD.
- 2B: DISCONNECT O2 SENSOR CONNECTOR AND HARNESS.
- 2C: RESPRAY THE O2 SENSOR WITH PENETRANT AND REMOVE.
- 3A: SPRAY EXHAUST HANGER BUSHING WITH WD40 AND REMOVE BUSHING.
- 3B: REMOVE 8X 12MM BOLTS AND CHASSIS CROSSMEMBERS.
- 4A: UNBOLT FRONT FLANGE. THEY ARE NASTY LOCKING NUTS, THIS IS DIFFICULT AND REQUIRES LOTS OF PENETRATING OIL.
- 4B: REMOVE NUTS FROM REAR FLANGE
- 4C: REMOVE THE CATALYST PIPE FROM THE VEHICLE. BE GENTLE, THE CATALYST IS FRAGILE AND CAN CRACK, CAUSING PERMANENT DAMAGE.
- 4D: REMOVE REAR DONUT GASKET FROM FACTORY PIPE.
- 5A: INSTALL 3X 35MM HEX HEAD BOLTS, LOCK WASHERS AND NUTS ON FRONT FLANGE OF CORKSPORT RACEPIPE.
- 5B: INSTALL HARDWARE IN REAR FLANGE. REUSE FACTORY SPRINGS.
- 5C: TIGHTEN FRONT AND REAR FLANGE BOLTS.
- 6A: APPLY ANTI-SEIZE GREASE TO O2 SENSOR AND INSTALL SENSOR INTO AFT O2 SENSOR BOSS.
- 6B: CONNECT O2 SENSOR WIRING HARNESS.
- 6C: INSTALL TWO FACTORY CHASSIS CROSSMEMBERS, TORQUE TO 22-28 LB FT.
- 7: TAKE THE CAR OFF THE JACKSTANDS. START CAR AND CHECK FOR EXHAUST LEAKS.

CORKSPORT

# INSTALLATION INSTRUCTIONS: CORKSPORT POWER SERIES RACEPIPE 2004-2009 RX-8

## 1: SUPPORT CAR ON FLOOR JACK/JACKSTANDS OR LIFT.

USE A FLOOR JACK AND JACKSTANDS TO GAIN ACCESS TO THE UNDERSIDE OF THE VEHICLE.

⚠ ALWAYS REFER TO THE FLOOR JACK AND JACKSTAND MANUFACTURERS INSTRUCTIONS AS WELL AS THE FACTORY OWNERS MANUAL FOR YOUR VEHICLE TO DETERMINE JACKING POINTS AND SUPPORT POINTS. ALTERNATELY, USE AN AUTOMOTIVE LIFT TO GAIN ACCESS TO THE UNDERSIDE OF THE VEHICLE. SPRAY THE O2 SENSOR THREADS AND THE FIVE FLANGE BOLTS SHOWN IN FIGURE 1 WITH PENETRATING OIL, PREFERREBLY WHEN THE EXHAUST IS STILL WARM.

## 2: REMOVE O2 SENSOR



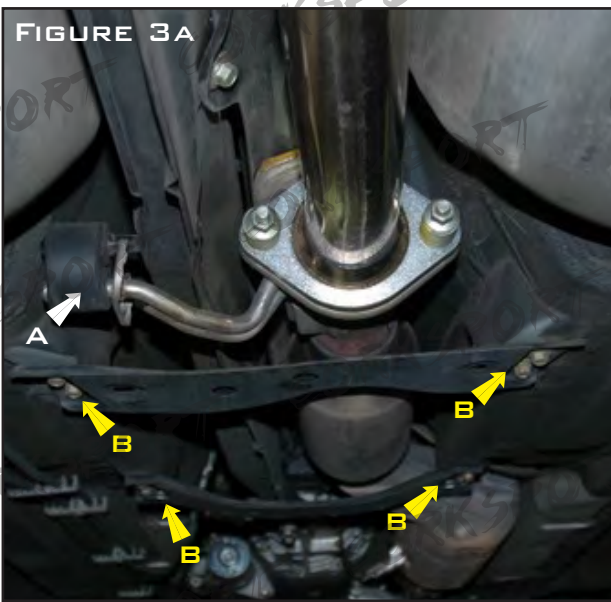
A) USING YOUR 10MM SOCKET AND SOME PENETRATING OIL LIKE PB BLASTER, REMOVE THE TWO 10MM NUTS AND O2 SENSOR SHIELD SHOWN IN FIGURE 2.

B) DISCONNECT THE O2 SENSOR PLUG HARNESS AT



THE GREY CONNECTOR. PUSH THE TAB AND PULL THE CONNECTOR OUT.

C) RE-SPRAY THE O2 SENSOR THREADS WITH PENETRATING OIL. USING A 22MM BOX END WRENCH, UNSCREW THE O2 SENSOR. AFTER BACKING IT OUT ONE TURN, RESPRAY WITH PENETRATING OIL, SCREW IT BACK IN AND THEN BACK IT ALL THE WAY OUT. THIS WILL HELP TO GET THE PENETRATING OIL TO ALL THE THREADS. SET THE O2 SENSOR IN A SAFE PLACE.



## 3: DISCONNECT CATPIPE HANGER BUSHING AND CROSSMEMBERS.

A) SPRAY BOTH SIDES OF THE EXHAUST HANGER (A) SHOWN IN FIGURE 3 WITH SILICONE SPRAY (OR WD-40) WHERE IT PASSES THROUGH THE LOWER EYELET OF THE BUSHING. AGITATE THE BUSHING BACK AND FORTH ON THE HANGER TO HELP SATURATE THE BUSHING HOLE WITH THE SPRAY, AND PRESS THE BUSHING BY HAND OR WITH A PRY BAR OFF OF THE HOOK. SWING THE BUSHING UP AND OUT OF THE WAY ON THE UPPER PIVOT OR REMOVE IT PERMANENTLY. IT WILL NOT BE REUSED.

B) REMOVE 8X 12MM BOLTS (B) FROM CHASSIS STIFFENING CROSSMEMBERS AND REMOVE THE CROSSMEMBERS. IT IS POSSIBLE TO DO THE JOB WITHOUT REMOVING THE REAR CROSSMEMBER SHOWN IN FIGURE 3A, BUT IT IS EASIER WITH IT REMOVED.

# INSTALLATION INSTRUCTIONS:

## CORKSPORT POWER SERIES RACEPIPE 2004-2009 RX-8

### 4: UNBOLT FLANGE BOLTS AND REMOVE CATPIPE FROM VEHICLE.

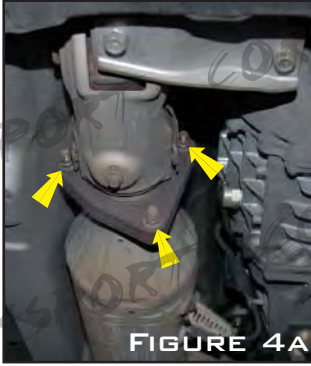


FIGURE 4A

A) UNBOLT THE THREE 1.4MM NUTS SHOWN IN FIGURE 4A FROM THE FORWARD FACE OF THE FORWARD FLANGE OF THE CATPIPE. ⚠️ THESE ARE THOSE NASTY 'I WANT TO PUT A SHARP STICK IN MY EYE' STAINLESS LOCKING FLANGE NUTS, AND BY DESIGN, THEY LOVE TO STRIP THREADS. APPLY COPIOUS AMOUNTS OF PENETRATING OIL AND USE THE 1.4MM SOCKET AND BOX END WRENCH TO BACK THEM OFF OF THE BOLTS. YOU MAY BREAK ONE OF THE PRESS IN BOLTS, BUT DON'T WORRY - WE SENT YOU THREE NICE CADMIUM PLATED BOLTS AND LOCK WASHERS/NUTS SO YOU WON'T HAVE TO REUSE ANYTHING REMOTELY RESEMBLING THOSE LOCK NUTS. IT DOESN'T HURT TO LEAVE ONE OF THE NUTS SLIGHTLY ON THE STUD TO KEEP THIS END OF THE PIPE IN PLACE WHILE DISCONNECTING THE OTHER END. RETAIN THE FACTORY GASKET, IT WILL BE REUSED. IF IT IS IN POOR CONDITION, REPLACE IT.

B) SWITCHING TO THE REAR FLANGE, BACK THE NUTS SHOWN IN FIGURE 4B OFF OF THE SPRING LOADED STUDS TO RELEASE THE REAR HALF OF THE CATPIPE. SET ASIDE THE SPRINGS, THEY WILL BE REUSED.

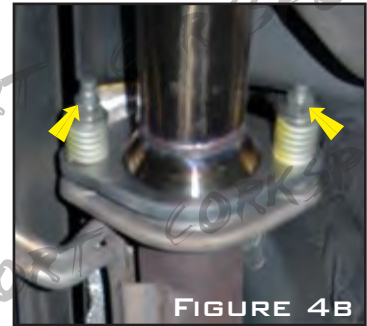


FIGURE 4B

C) REMOVE THE CATPIPE FROM UNDER THE VEHICLE AND SET IT ASIDE. ⚠️ IT IS IMPORTANT TO NOTE THAT THE CATALYST IS FRAGILE AND BRITTLE, SO DO NOT DROP THE CATPIPE OR PLACE IT IN A WAY THAT CAN BE HIT BY OTHER OBJECTS, ETC.

D) REMOVE THE FACTORY EXHAUST DONUT FOR RE-USE. USING A Mallet or HAMMER AND LARGE FLATHEAD SCREWDRIVER, GENTLY TAP THE SCREWDRIVER BETWEEN THE FLANGE AND THE FACTORY DONUT GASKET. WORK YOUR WAY AROUND THE GASKET UNTIL IT IS FREE. INSTALL THE GASKET ONTO THE CORKSPORT POWER SERIES RACEPIPE REAR FLANGE.

### 5: INSTALL CORKSPORT POWER SERIES RACEPIPE.

A) INSTALL THE PROVIDED 3X 35MM HEX HEAD BOLTS THROUGH THE FRONT FLANGE, USING THE FACTORY GASKET AND A LOCK WASHER AND NUT AS SHOWN IN THE FASTENER STACKUP FIGURE 4A. DON'T TIGHTEN THEM UP JUST YET, JUST GET THEM SNUG, YOU'LL NEED SOME RANGE OF MOTION TO CONNECT THE OTHER END.

B) SWING THE TAILPIPE SECTION OF THE EXHAUST REARWARD OUT OF THE WAY AND PIVOT THE RACEPIPE UP TO MATCH THE DONUT GASKET INTO THE FACTORY TAILPIPE FLANGE. RUN THE BOLTS AND NUTS THROUGH THE TWO FLANGES USING THE STACKUP SHOWN IN FIGURE 5B. THIS STACKUP ALLOWS YOU TO PUT PRESSURE ON THE BOLT SIDE OF THE ASSEMBLY TO COMPRESS THE SPRINGS WHILE STARTING THE NUTS OVER THE TOP OF THE STANDARD FLAT WASHERS.

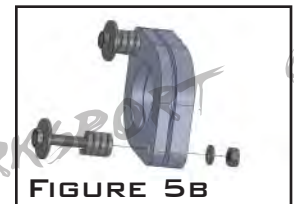


FIGURE 5B

C) TIGHTEN FORWARD FLANGE BOLTS TO 16-18 FT LBS OF TORQUE, AND TIGHTEN REAR FLANGE BOLTS WITH APPROX 1MM OF SPACE BETWEEN THE COILS OF THE SPRINGS.

### 6: INSTALL OXYGEN SENSOR, WIRING & CROSSMEMBERS.

A) APPLY ANTI SEIZE GREASE TO THE THREADS OF THE OXYGEN SENSOR AND REINSTALL THE SENSOR INTO THE REAR O2 SENSOR BUNG OF THE POWER SERIES RACEPIPE.

B) CONNECT OXYGEN SENSOR HARNESS CONNECTOR INTO CONNECTOR ON VEHICLE. ENSURE THAT THE WIRING HARNESS IS NOT TWISTING.

C) INSTALL TWO FACTORY CHASSIS CROSSMEMBERS FROM FIGURE 3A AND TORQUE FASTENERS TO 22-28 FT. LBS. OF TORQUE.

# INSTALLATION INSTRUCTIONS:

## CORKSPORT POWER SERIES RACEPIPE 2004-2009 RX-8

### 7: LOWERING CAR, RUN TEST, TROUBLESHOOTING.

- A) USE THE CHECKLIST TO ENSURE THAT ALL OF THE OPERATIONS IN THE INSTALLATION INSTRUCTIONS HAVE BEEN COMPLETED. PUT THE CAR BACK ON THE GROUND AS PER MANUFACTURERS RECOMMENDATIONS (WHETHER ON JACKSTANDS OR ON AUTOMOTIVE LIFT.)
- B) START THE CAR AND LISTEN FOR EXHAUST LEAKS. IF EXHAUST LEAKS ARE PRESENT, RE-LIFT THE CAR AND CHECK EVENNESS OF THE AMOUNT THAT THE LARGER SPRING LOADED BOLTS ARE BEING HELD DOWN. IT SHOULD BE REASONABLY EVEN (WITHIN 10% OF GAP SIZE) BETWEEN MEASURED GAP IN REAR FLANGES.

### WHAT'S NEXT?

#### CORKSPORT POWER SERIES CATBACK EXHAUST SYSTEM:



A DUAL MUFFLER DESIGN ON THE CORKSPORT RX8 EXHAUST PROVIDES A DEEP TONE AND GIVES A POWERFUL IMPRESSION THROUGH THE THROTTLE RANGE. THE RX8 EXHAUST IS 24LBS LIGHTER THAN THE STOCK RX8 EXHAUST SYSTEM.

THE CORKSPORT POWER SERIES RX8 EXHAUST SYSTEMS ARE CONSTRUCTED WITH THE QUALITY MATERIALS AND CONSTRUCTION METHODS. CORKSPORT

USES POLISHED 304 STAINLESS STEEL PIPING FOR ALL OUR RX8 EXHAUST SYSTEMS. MANDREL BENT 2.4" ID PIPING IS USED FOR SMOOTH EXHAUST FLOW TO INCREASE POWER. CORKSPORT RX8 EXHAUST ALSO FEATURES TIG WELDS FOR A STRONG AND GOOD LOOKING CONNECTION. CORKSPORT POWER SERIES RX8 EXHAUSTS FEATURE A STYLISH ETCHED STAINLESS STEEL LOGO PLATE IDENTIFYING THE EXHAUST AS A GENUINE CORKSPORT PRODUCT.

THE CORKSPORT RX8 EXHAUST INCLUDES THE HARDWARE NEEDED FOR INSTALLATION OF THE EXHAUST AND THE EXHAUST ALSO COME WITH A 2 YEAR WARRANTY. CORKSPORT EXHAUSTS UTILIZE FACTORY HANGER LOCATIONS FOR EASY INSTALLATION.

#### CORKSPORT RX-8 FRONT & REAR STRUT BAR SET:



THE ONE PIECE CORKSPORT FRONT AND REAR STRUT BARS HELP INCREASE THE STIFFNESS OF THE RX-8 CHASSIS BY TYING LOAD POINTS TOGETHER. THE REDUCTION IN CHASSIS FLEX DURING HARD CORNERING RESULTS IN IMPROVED HANDLING AND STEERING RESPONSE.

CORKSPORT STRUT BARS ARE A GREAT VALUE. THE QUALITY IS COMPARABLE TO THOSE FROM MAZDASPEED AND CUSCO BUT AROUND 1/2 THE COST. THIS STRUT BAR IS BUILT FROM T6061 ALUMINUM AND POLISHED TO A HIGH LUSTER. EACH BAR IS TIG WELDED FOR STRENGTH IN CONSTRUCTION.

BUY BOTH THE FRONT AND REAR TODAY AND SAVE \$30 ON THE PAIR OVER THE INDIVIDUAL PRICES.

