

SCUBAPRO

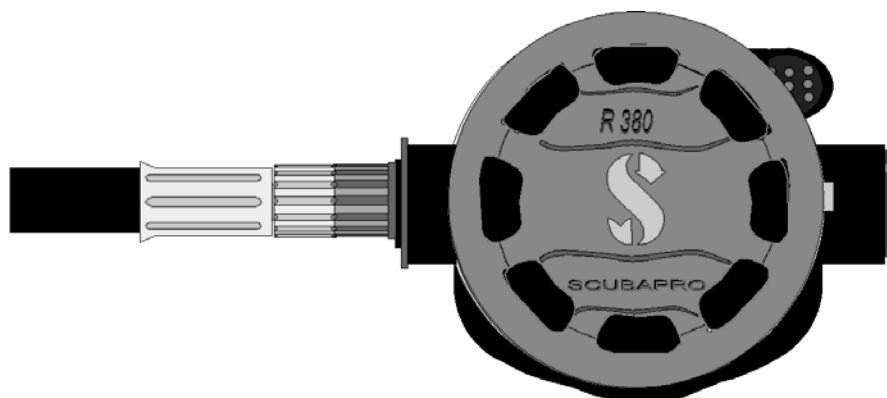
Repair Guide

R390 - R380

Second Stages



USE THIS GUIDE AS A REFERENCE WHEN SERVICING THE R390 AND R380 SECOND STAGES



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Important note: The following information is not designed to be a complete training guide for servicing the listed SCUBAPRO regulators. All SCUBAPRO technicians are required to attend an annual service training program to insure safe handling and servicing of SCUBAPRO products. All SCUBAPRO technicians must be employed by an authorized SCUBAPRO facility.

SCUBAPRO R 390 - R 380 Second Stages

TOOLS NEEDED FOR REPAIR OF R390-R380



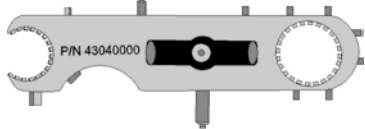
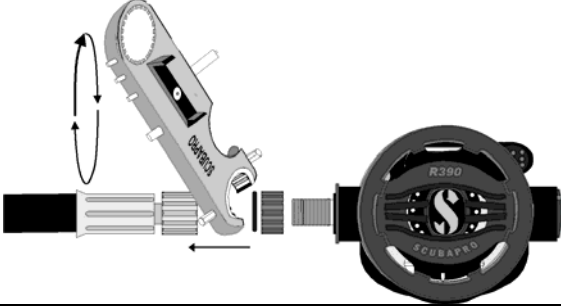


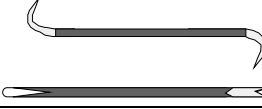
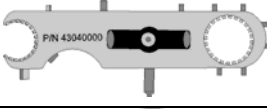
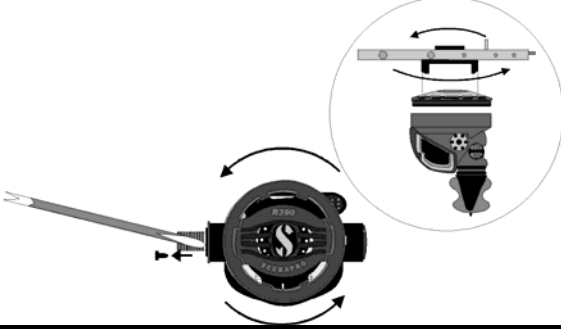





Quantity	Part Number	Description	
1 set	10.102.100 (Peter Built)	Brass o'ring picks	
1 tube	41.047.000	Christo-Lube	
1	47.010.000	Counter Mat	
1	41.496.101	Lubricant syringe	
1	43.040.000	Universal Tool	
1	11.153.500 (Peter Built)	Ball-end Allen Wrench	
1	43.300.225	VIVA Flow Vane Removal Tool	
1		13mm low torque wrench	
1	20.500.200 (Peter Built)	Pneumatic Adjusting tool	
1	18.300.500	Blow Gun/Air Nozzle	
1		1/4" Nut Driver	



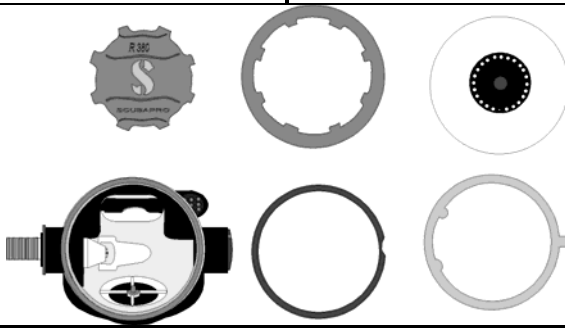


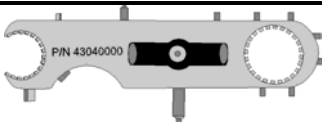
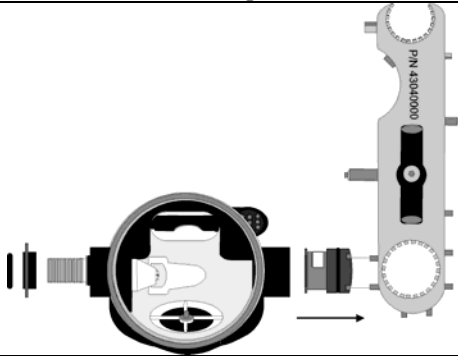



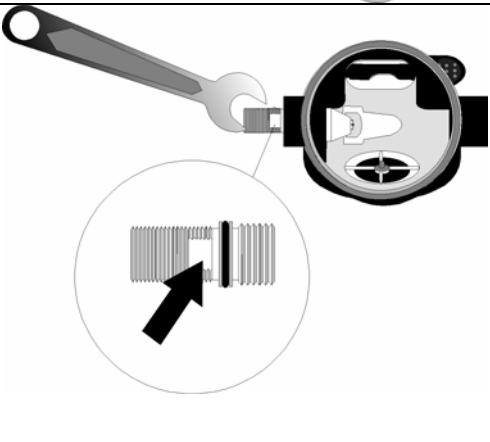
ICON LEGEND

	Inspect carefully, replace if needed	
	Lubricate properly	
	Replace annually	
	Dynamic o'ring, replace annually and lubricate properly	
	No tools needed for this step	
		Indicates the regulators affected by this step

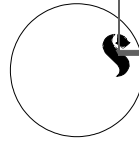
SCUBAPRO R 390 - R 380 Second Stages

			
<p>Remove hose and jam nut from the second stage.</p>			
			
<p>Remove the housing pin using the brass pick or similar tool.</p> <p>Use the universal tool as shown to loosen the two-piece cover of the R390.</p>			
			<p>No tools needed this step</p>
<p>Remove the two-piece cover, friction washers and diaphragm from the second stage housing.</p>			

SCUBAPRO R 390 - R 380 Second Stages

			No tools needed this step
Remove the two-piece cover, friction washers and diaphragm from the second stage housing.			
			Remove the washer from the air inlet. Using the universal tool remove the housing plug by turning and then pushing from the inside of the housing.
			
			Use a 13mm or 1/2" low torque (thin) wrench to loosen and remove the valve body. The wrench should rest on the "flat" sides of the valve body, which are designed to permit gripping by a wrench. Caution: Do not score the threads on the valve body when applying the wrench. Scoring the threads will result in damage and require replacement of the valve body.
			




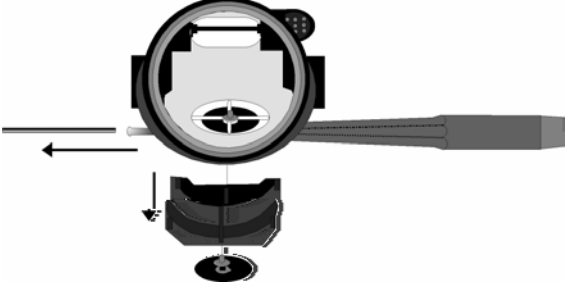



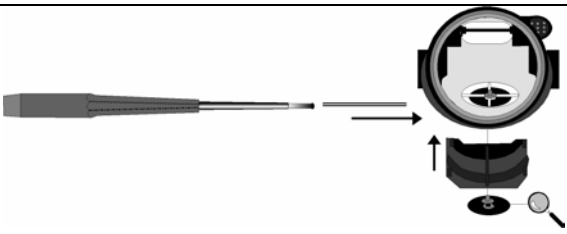



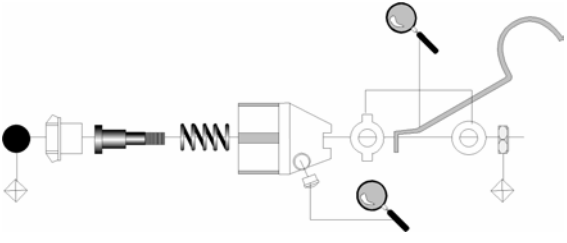
SCUBAPRO R 390 - R 380 Second Stages





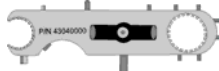

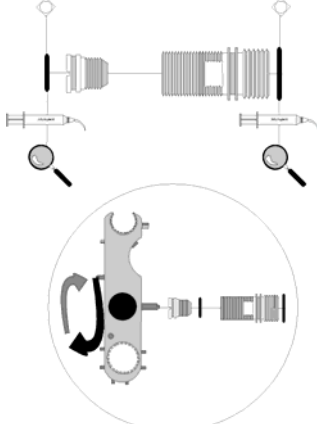



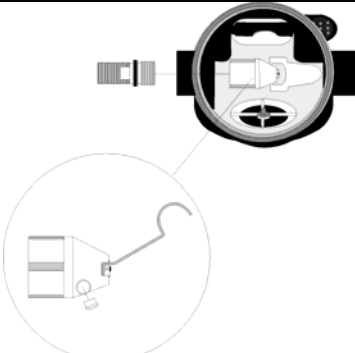
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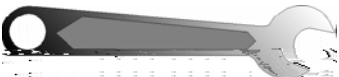
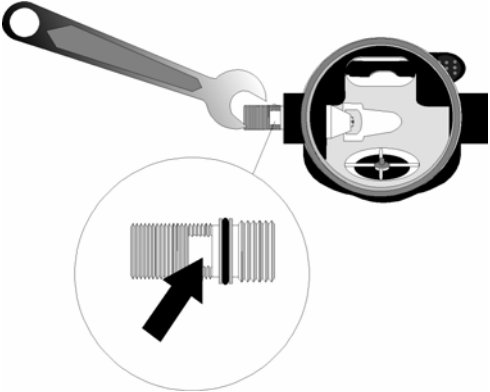


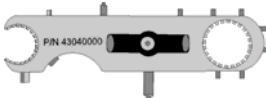

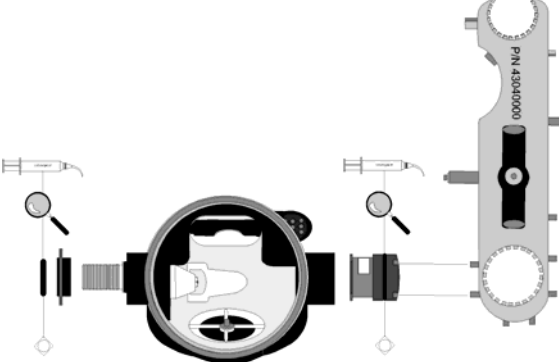
SCUBAPRO R 390 - R 380 Second Stages

		
<p>If removal of the exhaust valve is necessary, use the ball-end allen wrench to push out the exhaust tee pin. Remove the center section of the exhaust tee.</p> <p>To remove the exhaust valve, grasp with fingers and pull firmly out.</p> <p>The exhaust valve will seldom need to be replaced. Careful inspection is usually all that is necessary. If the valve is removed during service, it may be damaged during the process, <u>requiring</u> replacement.</p>		<p>This Step Is Only Performed As Needed</p> 
		
<p>If the exhaust valve is removed, carefully inspect and replace if necessary.</p> <p>Replace the exhaust tee center section and use the ball-end allen wrench to replace the exhaust tee pin.</p>		<p>This Step Is Only Performed As Needed</p> 
		
<p>Inspect all washers and the lever.</p> <p>Replace the poppet seat and nyloc nut.</p> <p>Reassemble the valve housing. The nyloc nut should be adjusted as follows:</p> <ol style="list-style-type: none"> Maximum of one poppet carrier thread showing through if used for a primary regulator. Maximum of two poppet carrier threads showing through if used for an octopus regulator Maximum of three poppet carrier threads showing through under all circumstances. 		



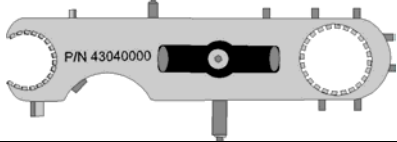
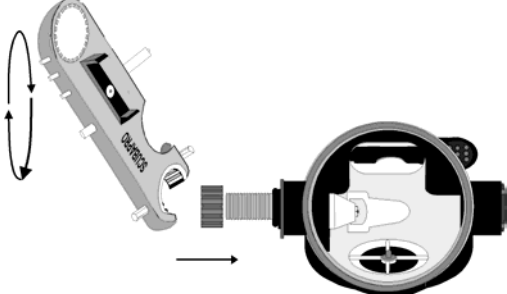


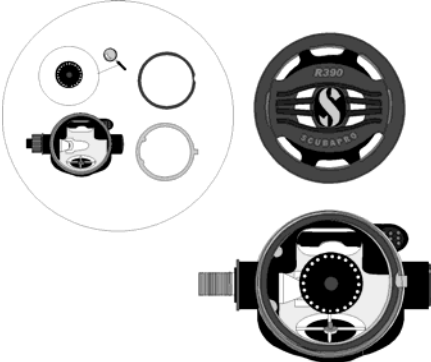


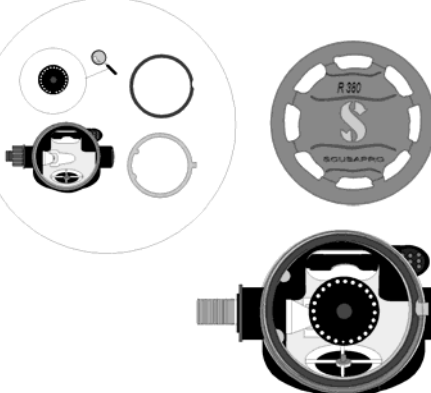
SCUBAPRO R 390 - R 380 Second Stages

			
<p>Inspect and lubricate the two static o'rings on the valve body and adjustable orifice.</p> <p>Insert the adjustable orifice into the valve body and turn the adjustable orifice inward one complete turn using the universal tool.</p>			
			<p>No tools needed this step</p>
<p>Install the valve housing and valve body into the case.</p> <p>Hold the lever DOWN while assembling these pieces. This will help prevent engraving of the poppet seat during the threading process.</p>			



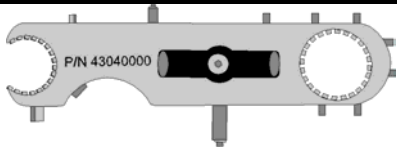
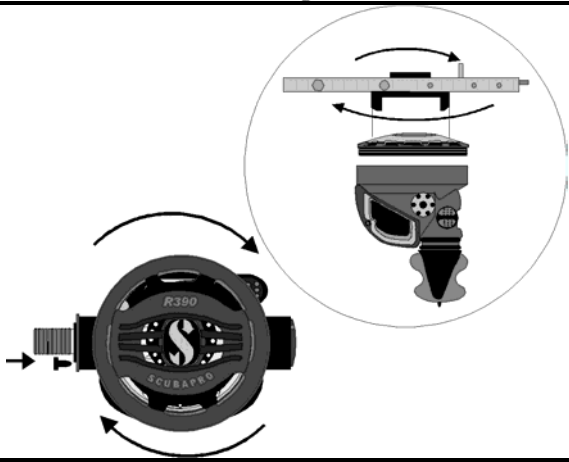

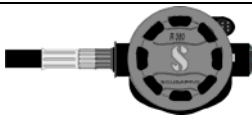
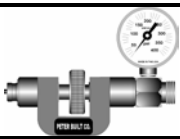
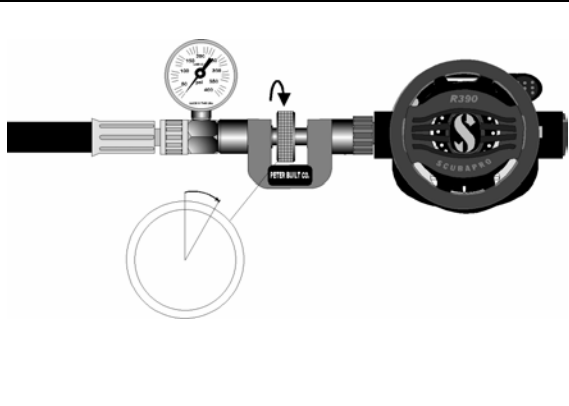
SCUBAPRO R 390 - R 380 Second Stages

			
<p>Use a 13mm or ½" low torque (thin) wrench to tighten the valve body. The wrench should rest on the "flat" sides of the valve body, which are designed to permit gripping by a wrench. Hold the lever arm down as you tighten the valve body to prevent engraving of the poppet seat.</p> <p>Caution: Do not score the threads on the valve body when applying the wrench. Scoring the threads will result in damage and require replacement of the valve body.</p>			
			
<p>Inspect and lubricate the valve body o'ring. Reinstall the washer and o'ring on the outside of the valve body.</p> <p>Inspect and lubricate the plug o'ring. Reinstall the plug in the regulator case using the universal tool. Turn the plug ¼ turn until it locks in place.</p>			



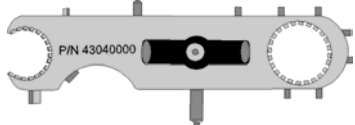
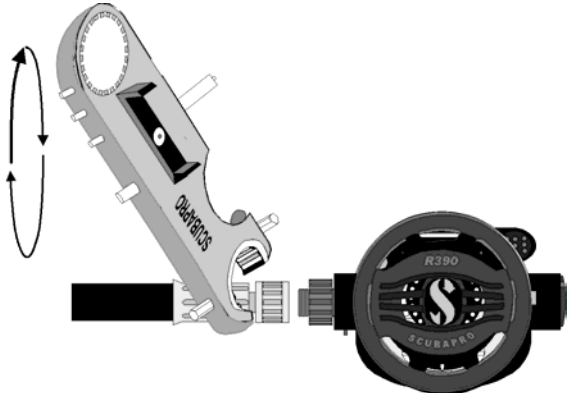


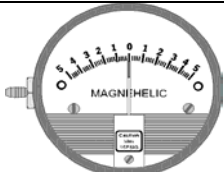
SCUBAPRO R 390 - R 380 Second Stages

			
Install the jam nut on the valve body and tighten using the universal tool.			
			No tools needed this step
<p>Inspect the diaphragm and install.</p> <p>Install the anti-friction washer on top of the diaphragm being careful to insert the tab in the side of the case.</p> <p>Install the washer on top of the anti-friction washer.</p>			
			No tools needed this step
<p>Inspect the diaphragm and install.</p> <p>Install the anti-friction washer on top of the diaphragm being careful to insert the tab in the side of the case.</p> <p>Install the washer on top of the anti-friction washer.</p>			

SCUBAPRO R 390 - R 380 Second Stages

		
<p>Install the two-piece front cover. Use the universal tool as shown to tighten.</p> <p>Insert the case pin.</p>		
		
<p>Mount the pneumatic adjusting tool into the second stage body, and thread on the second stage low-pressure hose.</p> <p>Use the pneumatic adjusting tool to make the initial air-on adjustments to the second stage, and to stop all free flowing. Once free flow stops, de-tune the second stage orifice from the twelve o'clock position to the one o'clock position.</p>		

SCUBAPRO R 390 - R 380 Second Stages

		
<p>Reinstall the low-pressure hose on the second stage body.</p>		
		
<p>Check the cracking effort of the regulator.</p> <p>R390 Inhalation effort range: Primary Regulators: 1.2 to 1.8 inches of water Octopus/Alternate Air Source: 1.4 to 1.8 inches of water</p> <p>R380 Inhalation effort range: Primary Regulators: 1.2 to 1.8 inches of water Octopus/Alternate Air Source: 1.4 to 1.8 inches of water</p>		