PRO-FLEX / GIRVIN ODS PERFORMANCE UPGRADE INSTRUCTIONS

WARNING!

K2 Bike strongly recommends that ODS shocks be serviced by a K2 Bike dealer or other qualified technician. These instructions are for a qualified technician who possesses proper training and tools. Improperly serviced / installed parts can be extremely dangerous and can result in failure during use and severe injuries.

In 1996, K2 Bike introduced an Oil-Damping System that was designed to increase the performance of the MCU-based front and rear shocks. We have developed three procedures to elevate the performance of your ODS system:

1. Change the stock 30wt oil in the ODS to a lighter weight suspension oil. (10 - 12wt for MCU springs)
2. Change the stock black seals in each pivot to new clear "Extreme Seals." (Available in kit #RK005)
3. Grease all pivot points in with K2 Goo, a super-slick suspension lubricant, and check torque on all fasteners.

NOTE: If have coil springs on your ODS damper, you may want to use a higher weight oil (12 - 20wt). Some experimentation may be necessary to find the correct oil weight. You may also notice that your ODS / Coil shocks exhibit a "top-out knock". This is due to the fact that ODS dampers are designed to work best with MCU springs, and faster-rebounding coil springs can create a "knock" in the ODS damper. You may opt to purchase Noleen shocks for your bike and fork, which are specifically designed to work with coil springs and offer better performance.

Tools Needed for ODS Performance Upgrades:

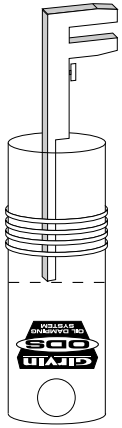
Adjustable pin spanner (Park green)	(2) 19mm open-end or cone wrenches
5mm hex wrench	10mm shaft clamp or axle clamp
Torque Wrench w/ 5mm hex bit	Bench-mounted vice
Calipers or measuring device for oil level	SAE shock oil (not motor oil)

Loctite #242 (blue) and #271 (red)

Cylinder tool (or tube with inner diameter larger than 10mm. Can use part #14109-1, lower shock pin from Vec 2/ AL)

Service / Upgrade parts available for ODS-equipped bikes and forks:

Kit / Item	Description	Part #
856 / 657-style Frame Bearing / Seal Kit	All bearings & seals for frame	RK002
Vector 2 / Girvin AL/CL Seal Kit	All "Extreme Seals" for fork	RK005
Vector 2 / Girvin AL/CL Bearing Kit	All nylon bearings for upper and lower links in fork	RK006
Vector 2 / Girvin AL/CL Upper Link Kit	Upper link, installed bearings, seals for upper link	RK15030-1, -2, -3
Vector 2 / Girvin AL/CL Lower Link Kit	Lower links, installed bearings, seals for lower link	RK15031-1, -2, -3
Vector 2 / Girvin AL/CL Unified Lower Link Kit	NEW One-piece lower link for fork, bearings, seals	GFULK
K2 Goo 2oz tube	Goo in a grease gun-ready package - THE BEST	15067-2



Oil Level Measurement

MCU Spring rate charts for ODS-equipped frames:

Rider weight	Spring rates	Spring Part # (top / bottom)
90 - 120 lbs	80 / 60	13943-12-80 / 13943-2-60
100 - 140	90 / 70	13943-12-90 / 13943-2-70
120 - 160	100 / 80	13943-12-100 / 13943-2-80
140 - 180	120 / 100	13943-12-120 / 13943-2-100
160 - 200	140 / 120	13943-12-140 / 13943-2-120
200 +	160 / 140	13943-12-160 / 13943-2-140

* For coil springs, follow Cross-Link spring rate charts.

MCU Spring rate charts for ODS-equipped forks:

Rider weight	Spring rates	Spring Part # (top / bottom)
90 - 120 lbs	50 / 30	13943-11-50 / 13943-2-30
100 - 140	60 / 40	13943-11-60 / 13943-2-40
120 - 160	70 / 50	13943-11-70 / 13943-2-50
140 - 180	80 / 60	13943-11-80 / 13943-2-60
160 - 200	90 / 70	13943-11-90 / 13943-2-70
200 +	100 / 80	13943-11-100 / 13943-2-80

Changing Shock Oil - Front ODS, Rear ODS

1. Open ODS unit (See Shock removal and disassembly / assembly instructions on next page).
2. Completely flush all the oil from the piston valving using an air compressor or a clean, dry rag, and clean all oil from the gold ODS shock body.

NOTE: Check the piston, axle and all seals for wear or scarring. Make sure the shock body is completely empty of oil and clean.

3. Add shock oil to the shock body without the piston.
4. The shock level should be measured from the top edge of the ODS shock body to the top surface of the shock oil.

ODS unit	Shock Oil Level	Volume
Front	44mm	10.4cc
Rear	53mm	12.4cc

NOTE: Remember to use only SAE shock oil for suspension forks.

5. Install the bearings, seals and washers in the correct order onto the piston shaft (see Pg. 2)
6. Gently push the piston assembly into the cylinder tube until the black shaft seal is the next to be installed.

NOTE: Install the shaft seal so that the open end of the seal is facing towards shock body.

7. Using the cylinder tool, gently tap the black shaft seal until it is completely flush with the top of the ODS shock body.
8. Using the cylinder tool again, gently tap the last metal bearing until it is flush with the shock body.
9. Screw on the screw cap and hand tighten with a pin spanner.
10. Lightly grease the two MCUs and install in the correct order.
11. See Page 2 for any additional instructions.

Rear ODS Disassembly / Assembly Instruction

1. Remove the ODS Shock Assembly from your bike by removing the upper and lower shock bolts.

NOTE: If you have difficulty removing the lower bolt because the shock shaft spins, first increase the preload on the springs and then carefully clamp the MCUs to bind against the shaft and prevent it from spinning.

2. Remove the two MCUs (#1,2) and all of the containment washers (#5,6,8).

3. Using a pin spanner, remove the screw cap (#11) completely. Leave the preload adjuster on the shock body.

4. Extend the shaft completely and slide the top containment washer (#6) back onto the shaft.

5. Slide the cylinder tool onto the shock shaft and snug it up against the containment washer. (See diagram)

6. Slide the shaft vice or axle vice onto the end of the shaft until the vice is snug up against the cylinder tool.

7. Put the axle vice / ODS assembly laterally into a bench mounted vice.

IMPORTANT: Failure to place the ODS in a lateral position will lead to premature oil leakage.

8. Tighten the preload adjuster (#7) and remove the first bearing (#16) as it comes free.

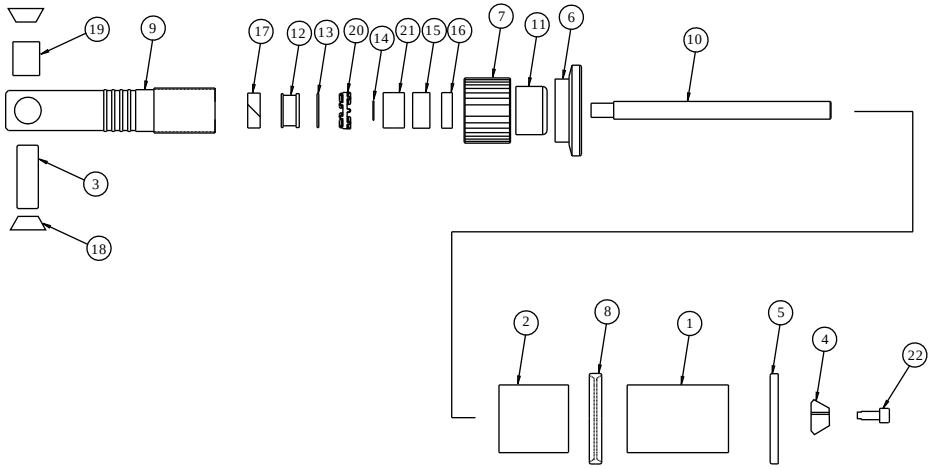
9. Continue to tighten the preload adjuster until 5mm of the black shaft seal (#15) is exposed.

10. Remove the ODS from the vice and remove the axle vice, cylinder tool and containment washers from the ODS shaft.

11. Pulling in an upward motion, the second bearing, blue snubber and piston assembly can now be removed.

12. The ODS unit is ready to be serviced. See Page 1.

13. After reinstalling MCU springs, install rear shock onto bike. Make sure to tighten shock mounting bolts to 150 in-lbs. Do not apply any blue Loctite on the lower bolt (#22). Apply blue Loctite on upper bolt.



Front ODS Disassembly / Assembly Instructions:

1. Remove the ODS Shock Assembly from your fork by removing the upper shock bolt and removing the lower pin that mounts through the lower shock end mount.

NOTE: Use a socket driver or dowel to push out the lower pin after loosening the two lower link pinch bolts. Be careful not to loose any of the parts.

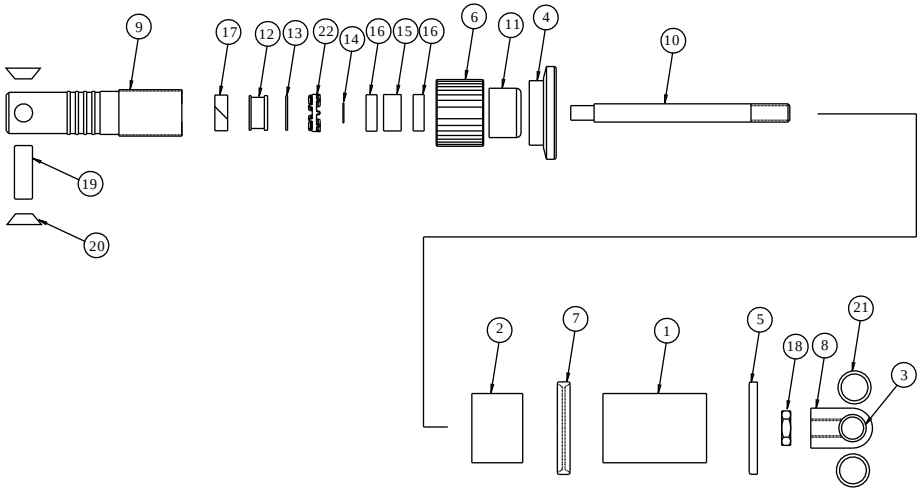
2. Remove the end mount (#3) and locknut (#18) with 19mm wrenches.

3. Remove the two MCUs and all of the containment washers.

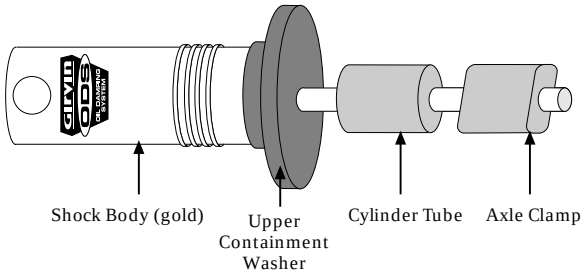
Next, follow steps #3 through #11 for Rear ODS Disassembly / Assembly Instructions to the left.

4. After reinstalling the MCUs, Install the locknut and end mount with blue Loctite. It is important to maintain a distance of 188mm from the center of the eye on the end mount to the center of the bore through the shock body.

5. Reinstall the upper shock bolt and lower shock pin. Tighten all fork bolts to 100 in-lbs (lower link pinch bolts must be tightened to 150 in-lbs).



ODS Tool / Disassembly Diagram



PRO-FLEX #1 IN FULL SUSPENSION BIKES
NOLEEN RACING