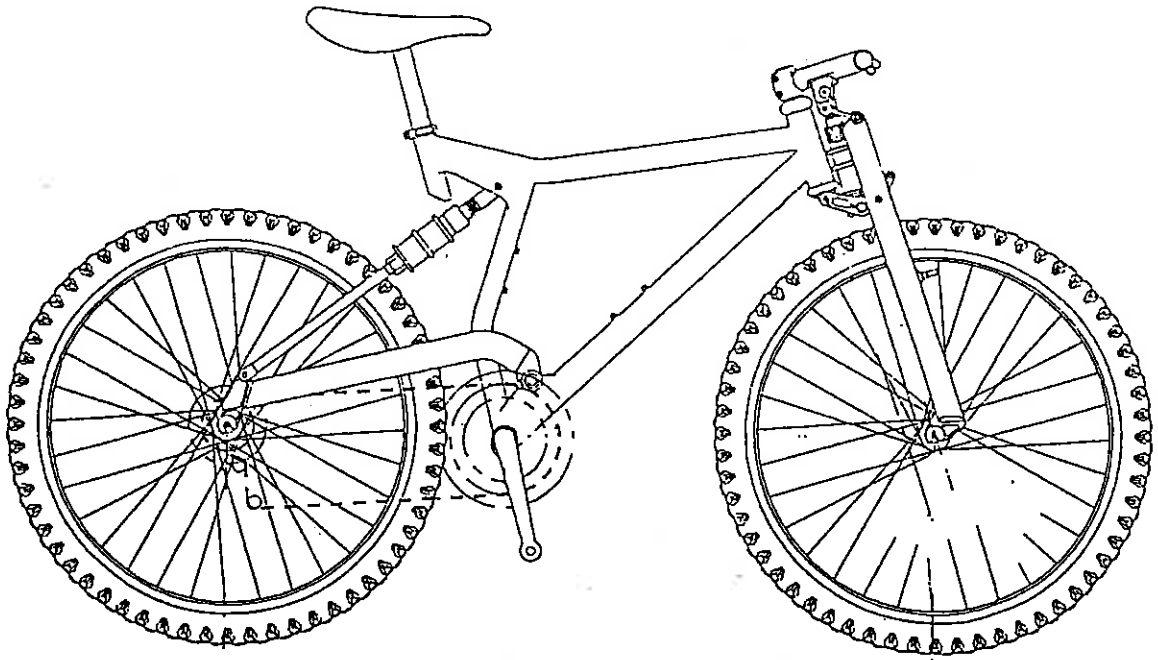


1996 Girvin Technical Clinic





Girvin

TECHNICAL CLINIC

Five Benefits To Proflex Full Suspension Bicycles

1. Increases Control
2. Increases Comfort
3. Reduces Rider Fatigue
4. Balanced Front and Rear Suspension
5. Leader in Suspension Technology

- Increased Control

Our micro cellular urethane springs offer a very controllable suspension. Chemically composed springs offer a wide range of compression and damping for each individual riders weight and style of riding. Our patented frame pivot point adds "Dig In" at the rear wheel, which keeps the wheel contacted with the ground. Girvin Suspension Forks add control with a linkage design system. While cornering, our linkage design forks are extremely rigid and have no stiction compared to telescoping forks.

- Increased Comfort:

Proflex fully active suspension is always absorbing hard impacts through the MCU springs. The MCU will also damped the impact on the rebound for assured comfort.

- Reduce Rider Fatigue:

With Proflex Full Suspension Bicycles, rider fatigue is greatly reduced. With out our suspension the rider would have numerous involuntary muscle reactions which leads to valuable energy loss. Our suspension reduces fatigue by absorbing impacts which then can lead to an 13% increase in riders performance.

- Balance Suspension:

It's "Quality" not "Quantity". Proflex suspension offers quality travel for both front and rear suspension . Micro cellular urethane spring design adds to the quality by having the same rider feel through out the complete bicycle.

- Leader In Suspension:

Proflex was the first to develop and utilize micro cellular urethane in full suspension bicycles. Proflex has also maintain it's patented lateral pivot point location over the bottom bracket for over six generations of bicycles. 1996 designs lead into the combination of MCU and hydraulic spring units for more controlled and comfortable suspension ever introduced. Hi-Tech materials like carbon fiber thermal plastic will be added for 1996 which brings light weight and strength to our flagship model, 956. Since the first Proflex full suspension bicycle was produced in 1990, Girvin Inc. will continue to be a leader in design of full suspension bicycles.

PROFLEX
1 IN FULL SUSPENSION BIKES
Girvin

TECHNICAL CLINIC

New for 1996

1996 PROFLEX FRAMES

- 956 - New carbon fiber thermal plastic rear swingarm, ODS hydraulic damping
- ANIMAL - ODS hydraulic damping, new strut design
- 856 - ODS hydraulic damping, new strut design
- BEAST - ODS hydraulic damping, new strut design
- 756 - Full world cup design, new strut design
- 656 - New WC frame design utilizing world cup image and performance
- ATTACK LE - New WC frame design utilizing sport flex suspension
- ATTACK - New WC frame design utilizing sport flex suspension

1996 GIRVIN SUSPENSION FORKS

- GIRVIN AL - Aluminum legs, non dedicated stem design, three stage ODS shock system, affordable and strong
- GIRVIN CL - New carbon fiber thermal plastic legs, non dedicated stem design, three stage ODS shock system, extremely light weight

1996 MCU HYDRAULIC DAMPERS (ODS)

- Proflex Bicycles - 3.5 inches of quality travel combined with hydraulic fluid damping.
- Girvin Forks - 2.3 inches of quality travel combined with hydraulic fluid damping.
- ODS - OIL DAMPED SUSPENSION - Takes our MCU system to the next generation. With the added damping, high and low speed impacts will be much more controlled.

PROFLEX
#1 IN FULL SUSPENSION BIKES
Girvin

TECHNICAL CLINIC

Tuning and Maintenance for Proflex Frames

Greasing - (See Tech Book Schematic)

1. Show disassemble of all different types of rear spring assemblies:
2. Clean all parts
3. Inspect for wear and replace parts as needed
4. Use synthetic lube on the guide rod and inside the elastomers
5. Reassemble unit and torque to spec
6. Remember spring units with be soft for first hour after greasing

- World Cup MCU and Hydraulic (956, Animal, 856, Beast)
- World Cup MCU (756)
- World Cup MCU (656, Attack LE, Attack)
- MCU (Arcadia, Newport)

Main Pivots- (See Tech Book Schematic)

1. Remove main pivot bolt
2. Remove bearing axles
3. Clean parts
4. Inspect seals, bearings and bolts for wear
5. Replace parts as needed
6. Torque bolt to recommended spec

Swingarm Adjustment - (See Tech Book Schematic)

1. Remove strut from rear swingarm so that the swingarm can move freely
2. Check main pivot torque spec
3. Loosing the two main pivot swingarm clamp bolts
4. Raise the swingarm as high as it will go
5. Tighten down the two swingarm clamp bolts so that the swingarm remains up
6. Now loosen each swingarm bolt, very little until the swingarm slowly moves down on it's own weight
7. Remember to loosen each swingarm bolt equally.
8. Re-install the strut and torque bolts to spec.

Rider Set

1. Measure the complete spring unit from black spacer to black spacer
2. Have the rider sit on the bike in normal rider position
3. Measure the spring distance again
4. Compression should range about 5mm to 10mm
5. Use the preload adjuster to reach desired rider set (no more than 5 turns)
6. Remember, freshly greased elastomers with compress more.

PROFLEX
1 IN FULL SUSPENSION BIKES
GIRVIN

TECHNICAL CLINIC

Tuning and Maintenance For Girvin Forks

Removal of Spring Assembly

1. Remove the front wheel completely
2. Remove upper cylinder axle bolt located at the stem
3. Loosen the two lower pivot bolts
4. Gently push through the lower pivot cylinder axle tube located at the lower link area, removing the axle, two cylinder spacers and seals
5. Grab hold of spring unit and slowly lower through the lower pivot links

Greasing MCU's with ODS

1. Remove spring unit
2. Hold lower bearing unit and loosen guide rod lock nut
3. Remove both lower bearing unit and lock nut
4. Remove MCU's and containment washers
5. Clean all parts
6. Lightly grease guide rod
7. Insert higher durometer MCU first
8. Insert middle containment washer
9. Insert lower durometer MCU last
10. Install lower bearing unit and lock nut
11. Tighten lower bearing unit and lock nut so that the center of the upper cylinder tube bearing and the center of the lower bearing unit measures 188mm exactly
12. Re-install spring assembly into the fork
13. Re-torque lower pivot bolts to 150 inch/pounds

Eccentric Rod Adjustment (J-Pattern mode)

1. Choose whether you want sensitive or antipogo mode
2. Loosen the two eccentric rod axle bolts located on top of each fork leg
3. Insert a 3mm allen key and rotate eccentric to the following fork setting:
   sensitive - standard hole drilling - Antipogo - chamfered hole
4. By using the 3mm allen key as straight edge insert into the hole in the eccentric rod and rotate the key so that it is parallel with the upper link
5. Re-tighten the two eccentric rod bolts to 100 inch/lbs

Rider Set

1. Choose what mode you what your fork on (sensitive or anitpogo)
2. Measure spring unit from containment washer to containment washer
3. Have rider sit and normal riding position and measure spring unit again
4. In sensitive mode the spring should have 3-8mm of compression
5. In anitpogo mode the spring should have 0-3mm of compression
6. Use preload adjustment to reach desired rider set (no more than 5 turns)

PRO-FLEX
#1 IN FULL SUSPENSION BIKES
Girvin

TECHNICAL CLINIC

1995 GIRVIN VECTOR 2 REVIEW:

- VECTOR 2 ALIGNMENT -

1. Loosen the two stem clamp bolts
2. Loosen the two lower link bolts (replace if not a 12.9 bolt)
3. Loosen the two eccentric axle bolts
4. Place front wheel in between your legs
5. With the handle bars, turn until correct alignment
6. Torque stem bolts to 120 inch/lbs
7. Check eccentric rod position and torque to 100 inch/lbs
8. Torque lower link bolts to 150 inch/lbs
9. Re-check alignment
   If you can not align, check the upper link for damage

- VECTOR 2 SLOPPINESS -
  Many black spacer seals were under size an also wear quickly which in turn resulted in a sloppy fork.

- VECTOR 2 SHOCK REMOVAL AND GREASING-
  See Vector2 owners manual for procedure

- VECTOR 2 NOISE -
  In dry conditions, the Vector fork may squeak. Use a lightweight oil on the black spacer seals. Allow 20 minutes to saturate.

- UPGRADE VECTOR 2 -
  All Vector 2 forks can be upgraded to a 96 model. You will need a ODS damper unit, longer steerer unit and upper stem mount. Plus hardware for each part.

PRO-FLEX
#1 IN FULL SUSPENSION BIKES
Girvin

INSTALLATION INSTRUCTIONS

Preparing the Fork

While your Girvin Fork has been assembled with care at the factory, partial disassembly and reassembly is required for mounting. Using the figures as a guide, complete these steps:

A. Removing the Upper Link Mount

1. Remove the two upper pivot axle bolts and pivot axles. Take care not to lose the four sculpted seal washers.

2. Remove the upper shock mounting bolt.

3. Pull the upper link mount off of the fork. **Note:** Do not remove the two black sculpted seal washers from the top of the gold shock absorber.

B. Crown race installation

1. Slide the crown race adapter onto the steerer tube, pushing it all the way to the base.

2. Using a standard crown race slide hammer, install the crown race onto the steerer tube as you would on a conventional fork.

   Note: A Girvin Crown Race Adapter Ring is necessary for 1 1/8" and 1 1/4" headsets.

Preparing Your Frame

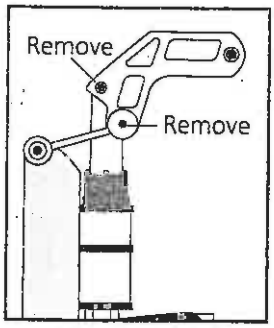
Now that your Girvin Fork is fully assembled, you must prepare your bicycle to receive the new fork. Using the figures in this section, complete the following steps:

A. Stripping Your Bike

1. Completely remove the old stem, fork, and headset.

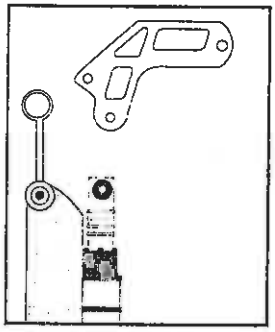
2. Press the upper and lower headset bearing races out of the frame's head tube.

3. Press the Aheadset upper and lower head tube cups into your frame. Be sure that the cups are firmly seated.



Step A 1& 2


Step A 3

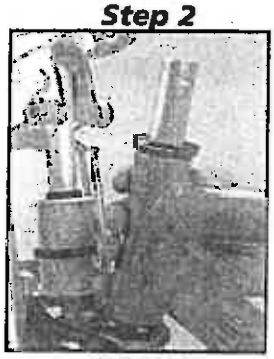

Step B1


Step B1


Step B2



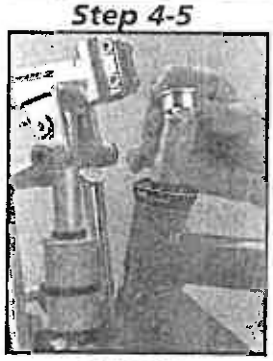
Step 2



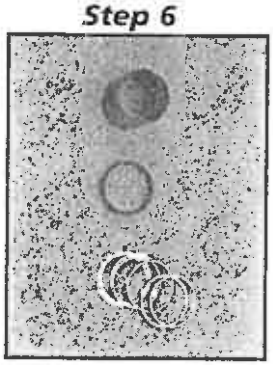
Step 3



Step 4-5



Step 6



Spacers

Installing the Fork

1. Orient the steerer tube so that it points toward the top of the fork.

   NOTE: Headset bearings must be free of dirt and properly lubricated.

2. Slide one of the Aheadset seals (with groove down) and one of the Aheadset bearings (retainer ring up) onto the Girvin Fork steerer tube. Be sure that the seal is properly set on the crown race seat.

3. Insert the steerer tube into the bottom of your frame's head tube. Push the steerer tube up through the head tube until the lower Aheadset bearing seats in the lower head tube bearing cup.

   NOTE: The steerer tube will protrude out of the top of your frame's head tube.

4. Slide the other Aheadset bearing (retainer ring down) and the upper race onto the steerer tube.

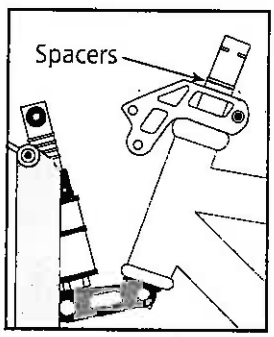
5. Slide the tapered (conical) black Aheadset ring onto the steerer tube and seat it in the upper bearing cup.

6. If you are installing a Girvin Fork with a 1" Aheadset, skip to Step 7. If you are installing a Girvin Fork with a 1 1/8" or 1 1/4" Aheadset, slide the special headset sizing spacer onto the steerer tube on top of the Aheadset parts.

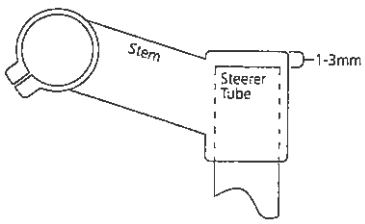
7. Temporarily slide the upper link mount onto the steerer tube.

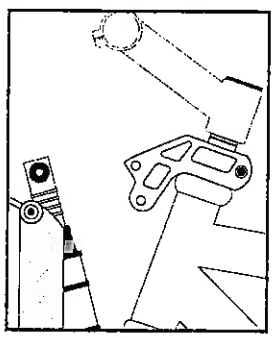
8. Temporarily install enough spacers to position the top edge of the steerer tube 1-3mm below the top edge of the stem. (In some cases, spacers won't be necessary.)

9. Temporarily slide the stem onto the steerer tube, pushing it snug against the spacers and link mount, and temporarily install and tighten the Aheadset cap.



Step 7 & 8



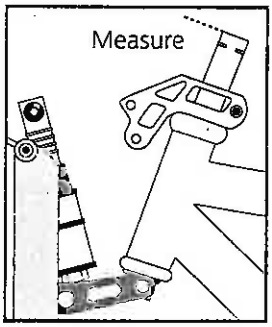


Step 9

10. Tighten the main pinch bolt on the upper link mount.

11. Remove the stem and spacers from the steerer tube.

12. Using a millimeter ruler, measure the distance from the top surface of the upper link mount to the top of the steerer tube.

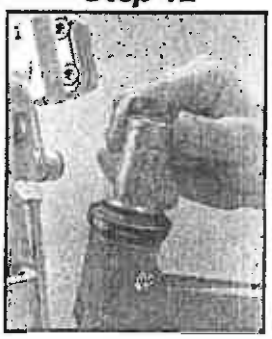


Step 12

13. Subtract 43mm from your measurement. The resulting number is the height of the spacer stack you need to add **underneath** the upper link mount (plus or minus 1mm).

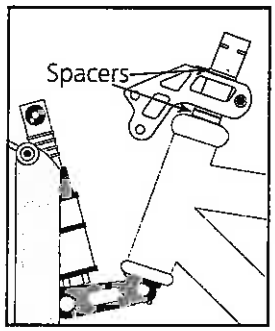
Measurement (mm) **- 43mm = Spacer Stack Height** (mm)

Example: Suppose the distance between the top surface of the link mount and the top edge of the steerer tube is 50mm. 50-43=7mm of spacer stack height.


Step 14

CAUTION: Assembly with the top of the steerer tube more than 44mm or less than 42mm from the top of the link mount can result in fork failure and severe injury.

14. Remove the upper link mount and slide the correct amount of spacers (as determined in Step 12) onto the steerer tube on top of the Aheadset parts.



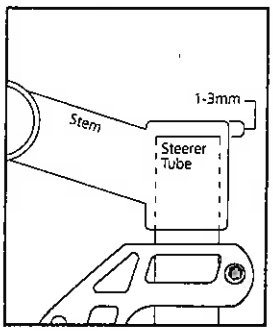
Step 12 & 15

NOTE: The spacers enclosed with your Girvin fork should be used below both the upper link mount **and** the stem. Different types of spacers for each location are not necessary.

NOTE: Contamination between the mating surfaces of Aheadset parts and spacers may cause the assembled headset to creak. Carefully clean these parts before assembly.

15. Reinstall the upper link mount on top of the spacers. Install the stem on top of the upper link mount.

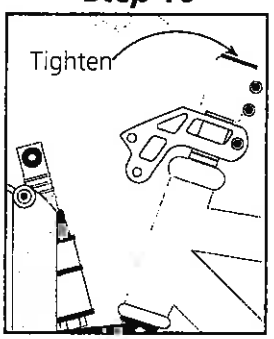
16. The distance between the top edge of the stem and the top of the steerer tube must be 1-3mm. If the distance is incorrect, remove the stem and add or remove spacers **on top of the link mount** to achieve a 1-3mm distance.



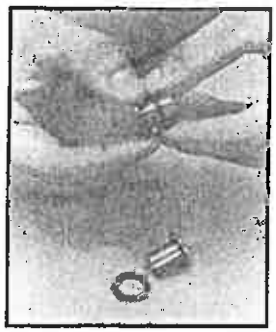
Step 16

CAUTION: Assembly with the top of the steerer tube more than 3mm below the top edge of the stem can result in fork failure and severe injury.

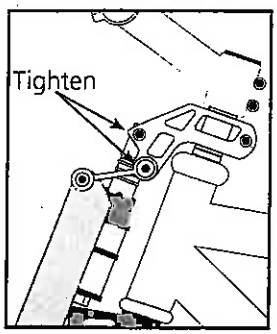
17. Insert the aheadset cap and cap screw through the top of the stem and into the steerer tube and carefully tighten to 55 in-lbs.



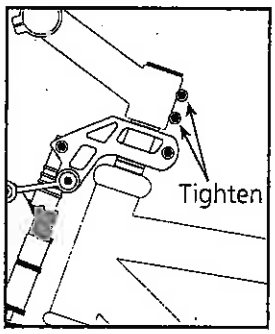
Step 16



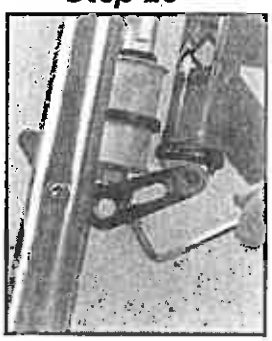
Pivot Axles



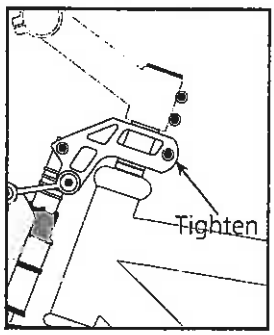
Steps 18 & 19



Step 20

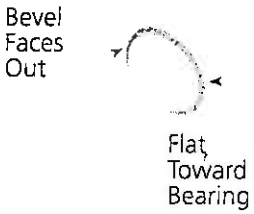


Step 22



Step 23

18. Reinstall the two upper pivot axles and 4 seal washers (with bevel facing out, flat side of seal facing in toward bearing) and bolt the upper link to the upper link mount. Torque the two bolts to 100 in-lbs.



Note: Ensure that the pivot axle ends seat in the recesses in the upper link mount.

19. Reinstall the upper shock mounting bolt to attach the upper link mount to the shock absorber damper tube (torque to 100 in-lbs.).

20. Tighten the two stem steerer pinch bolts to 100 in-lbs.

DANGER: If the two stem steerer pinch bolts are not securely tightened the steerer tube can pull out of the stem, resulting in loss of control and severe injury.

21. Install the handlebar and front wheel. Check to make sure that the upper link mount is aligned (left to right) above the front wheel.

NOTE: Misalignment will cause binding and wear in the fork links. To correct misalignment, loosen the upper link mount pinch bolt and the lower link pinch bolts. Standing in front of the bike, grip the front wheel between your knees and work it back and forth until it is in line with the upper link mount.

22. Torque the two lower link pinch bolts to 150 in-lbs.

23. Torque the upper link mount pinch bolt to 150 in-lbs.

24. **Recheck all fork bolts for proper torque.**

Cable Routing

Cable housing lengths should be sized to minimize rubbing on the fork legs. The rear brake and derailleur cables must be routed between the shock and the fork leg. To route the cables without disconnecting them, complete the following steps:

1. Remove the front wheel.

2. Remove the upper fork leg eccentric rod pivot bolt on the side of the bike the cables mount on.

   NOTE: Be sure not to lose the black plastic bearing seal washer.

3. Loosen (but do not remove) the lower fork leg pivot bolt on the side of the bike the cables mount on.

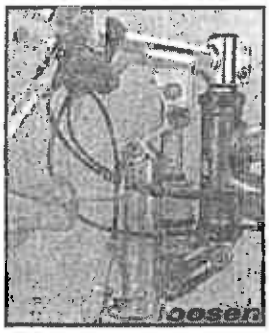
4. Remove the cable hanger bolt on the side of the bike the cables mount on.

5. Rotate the fork leg forward and move the cables to the inside of the fork.

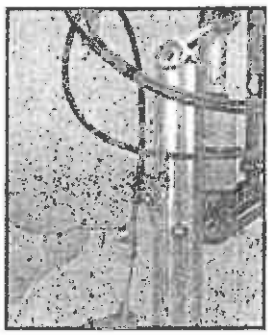
6. Rotate the fork leg back into place and replace the upper fork leg pivot bolt and cable hanger bolt using blue Loc-tite.

   Note: be sure to replace the black (yellow for Extreme Conditions Kit) plastic bearing seal washer (bevel facing out) on the upper pivot.

7. Tighten the upper and lower fork leg pivot bolts to 100 in-lbs. Tighten the cable hanger bolt to 40 in-lbs.



Step 2-3

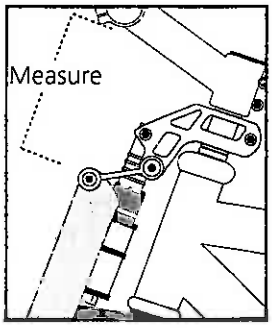

Step 4


Step 5

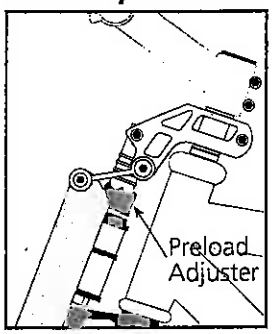


Step 7

B. Spring Preload Adjustment



Step 1 & 2



Step 4

Now that you've selected the fork mode, you must adjust the spring preload to correspond with your mode setting. Preload prevents the spring from compressing or "sagging" under the weight of a rider. The correct spring preload is achieved by turning the black adjuster on the top of the shock absorber , and measuring the fork compression, or **sag**.

Sag is a measurement of the change in distance between the upper fork leg pivot and the stem when the bicycle is unburdened versus when the rider is sitting on the bicycle.

If the upper link is horizontal to the ground or pointing forward and up with the rider on the bike, your fork probably has too little preload. If the fork does not compress at all when shifting your weight slowly over the front wheel, the preload is probably set too high.

For precise fork setup, study the figures and follow these steps:

1. Using a millimeter ruler, measure the distance between the underside of the stem and the highest point on the fork leg with no one sitting on the bike.

   Write down **Measurement A** (in mm) here: ____

2. Position the bicycle beside a wall and get on. Using your shoulder to steady yourself, place your hands on the bars and, your feet on the pedals, and your butt on the seat. Your full weight should be on the bicycle. Now have a friend re-measure the distance between the same point on the stem and the highest point on the fork leg.

   Write down **Measurement B** (in mm) here: ____

3. Plug measurements A and B into the following formula to determine how much your bike is sagging under your weight:

   Measurement A (in mm) - **Measurement B** (in mm) = **Sag** (in mm)

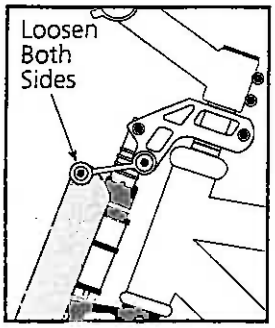
   Example: Suppose your bike's unburdened Measurement A is 60mm and your bike's loaded Measurement B (with you sitting on the seat) is 50mm. 60-50=10mm of sag.

4. To lessen sag, tighten the black preload adjuster nut (clockwise looking down on fork). To increase sag, loosen the preload adjuster (counterclockwise looking down on fork).

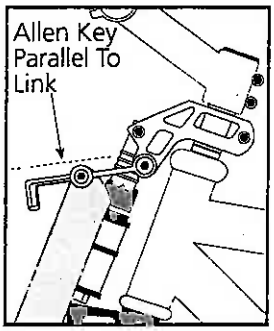
   a. If the fork is set to **Sensitive Mode**, turn the preload adjuster until the fork sags **3 to 8mm** under the weight of the rider.

   b. If the fork is set to **Anti-Pogo Mode**, turn the preload adjuster until the fork sags **zero to 3mm** under the weight of the rider.

5. Repeat Steps 2-5 until you achieve a sag measurement that falls into the proper range for your mode setting.



Step 1



Step 2 A & B

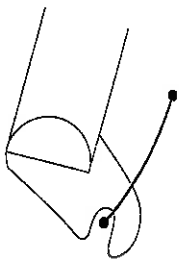
TUNING YOUR FORK

The Girvin Fork has three adjustments to tailor ride quality: • *Axle Path*, • *Spring Preload*, and • *Spring Rate* (stiffness)

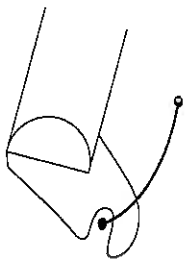
A. Axle Path Adjustment

Sensitive Mode: When combined with minimal preload in the spring, this setting will provide maximum sensitivity to small and large bumps by creating a more vertical wheel motion. In turn, the vertical motion will allow the front wheel closely to follow the contour of the ground. Your fork is factory set in the sensitive mode.

If your fork is new and you want to leave it in the sensitive mode, skip directly to **B. Spring Preload Adjustment** in this section.



Sensitive Mode
Axle Path



Anti-Pogo Mode
Axle Path

Anti-Pogo Mode: This setting creates an even more "J-shaped" axle path, further reducing the effect of vertical loads created by pedaling motions. The initial movement of the fork leg is backwards—more in line with large bump forces and less in line with vertical rider pedaling motion. When combined with substantial preload in the spring, this mode results in a fork that feels stiff when climbing, but accommodates medium and large bumps without limiting wheel travel.

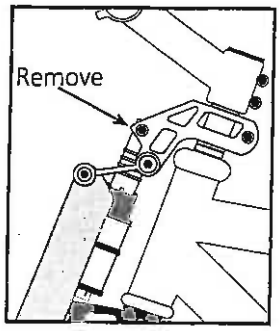
To change the fork setting from one mode to the other:

1. Loosen both upper fork leg pivot bolts one turn.

2 a. To set the fork to **Sensitive Mode**, insert a small Allen wrench into the chamfered hole in the upper fork leg pivot rod. Using the Allen wrench as a lever, rotate the pivot rod so that the small hole in the middle of the pivot rod runs parallel to the upper link with the chamfered end of the hole pointing **back and up**.

b. To set the fork to Anti-Pogo Mode, insert a small Allen wrench into the chamfered hole in the upper fork leg pivot rod. Using the Allen wrench as a lever, rotate the pivot rod so that the small hole in the middle of the pivot rod runs parallel to the upper link with the chamfered end of the hole pointing **forward and down.**

3. Holding the Allen wrench (still inserted into the hole in the pivot rod) to keep the pivot rod from rotating, retighten the upper fork leg pivot bolts to 100 in-lbs.



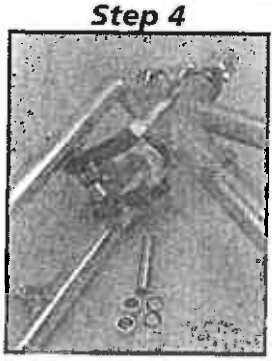
Step 2



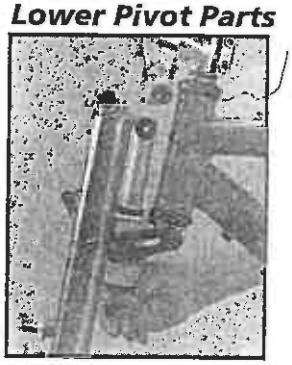
Step 3



Step 4



Lower Pivot Parts



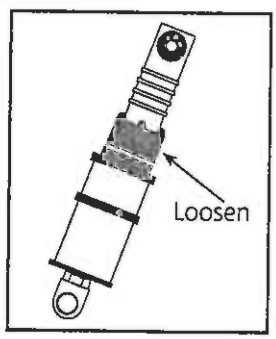
Step 5

C. Removal and Disassembly of Shock Absorber/Spring Replacement

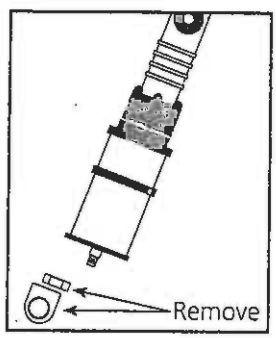
If preload adjustment doesn't produce the desired ride characteristic, a different stiffness spring may be purchased from your Girvin Dealer. To install an alternate rate spring, follow the steps and figures for disassembly and reassembly.

NOTE: Take care not to lose small washers or spacers during disassembly.

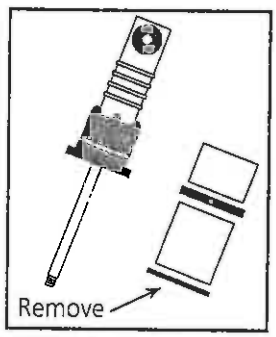
1. Remove front wheel.
2. Using a 5mm Allen key, remove the bolt that attaches the damper tube to the upper link mount.
3. Loosen the two pinch bolts on the lower links.
4. Using a suitably sized punch (a 10mm socket is ideal), tap out the lower spring pivot axle. Be careful not to lose the two metal spacers and the two black plastic seal washers.
5. Remove the shock absorber by sliding it down through the lower links.
6. Unscrew the black preload adjuster nut to minimum preload.
7. Using an adjustable wrench and 19mm box-end wrench, loosen the lower bearing knuckle lock nut from the knuckle and remove the knuckle and lock nut from the guide rod.
8. Remove the springs and two lower black containment washers from the guide rod.



Step 6



Step 7



Step 8

D. Reassembly/Reinstallation of Shock Absorber

To reassemble the shock absorber, carry out the steps of the previous section in reverse:

1. Apply a layer of organic grease to the guide rod and the inside of the springs.

2. Install the upper containment washer and shorter MCU spring onto the guide rod, followed by the black plastic center retainer washer, the longer MCU spring , and the black lower containment washer.

3. Thread the lock nut and lower bearing knuckle onto the end of the guide rod and spin on until the distance between the center of the upper and lower pivot holes is **188mm**.

CAUTION: A pivot-to-pivot distance significantly more or less than 188mm can be extremely dangerous, and can result in failure during use and severe injuries.

4. Tighten the locknut against the knuckle being careful to maintain the 188mm center to center distance.

CAUTION: Failure adequately to tighten the steering knuckle locknut can be extremely dangerous, and can result in failure during use and severe injuries.

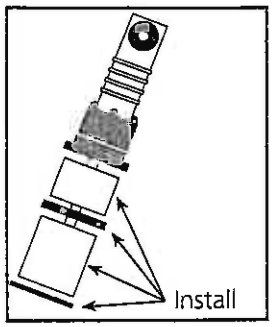
5. Slide the shock unit up through the lower links.

6. Using a 5mm Allen key, loosely install the bolt that attaches the shock damper tube to the upper link mount.

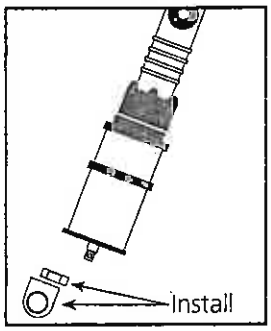
7. Push the lower spring pivot axle through the lower left link.

8. Slide an aluminum spacer and black plastic seal washer, bevel facing out away from bearing, onto the pivot axle.

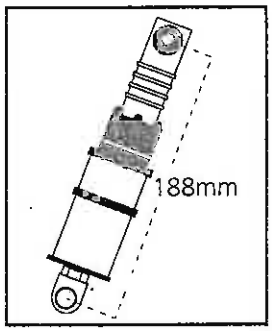
9. Continue to push the axle, sliding it through the spring mount bearing.



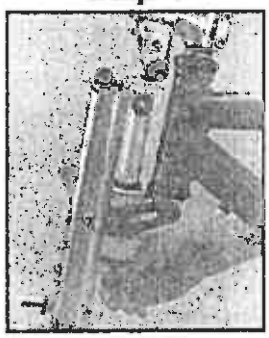
Step 2

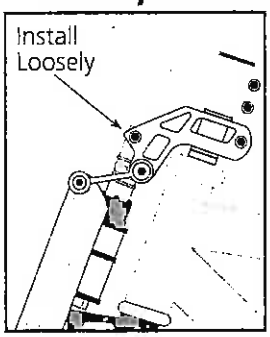


Step 3



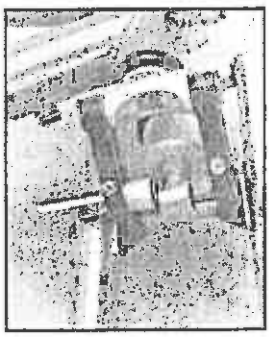
Step 4

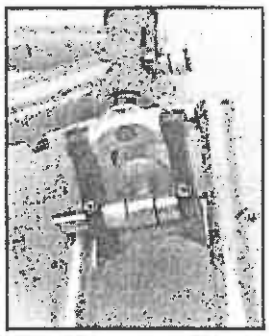

Step 5



Step 6

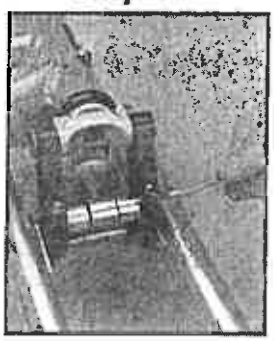

Step 7


Step 8

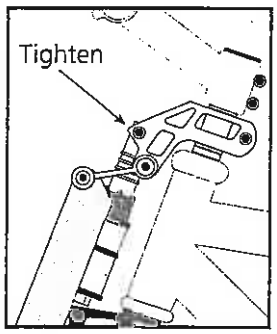

Step 9



Step 10



Step 11



Step 12

10. Slide the other black plastic seal washer, bevel facing out away from bearing, and the other aluminum spacer into place between spring mount bearing and the lower right link. Push the axle through the washer and spacer into the lower right link and center it so that the edges are recessed in the outer faces of the lower links.

11. Tighten both lower link pinch bolts to 150 in-lbs.

12. Using a 5mm Allen key, tighten the bolt that attaches the shock damper tube to the upper link mount to 100 in-lbs.

13. Double check all external bolts for tightness.

14. Refer back to **Tuning Your Fork** (page 7) to reset spring preload.

SPRINGS AND DAMPING

Aftermarket forks are shipped with medium stiffness springs. Forks that come as original equipment on bicycles are shipped with softer springs on smaller bikes and progressively stiffer springs on larger bikes. Girvin offers a range of aftermarket spring weights, and recommends the installation of tailored springs to suit individual weights and riding styles. For spring changing instructions, refer to **Removal And Disassembly Of Shock Absorber/Spring Replacement** (p. 9). For spring rates according to rider weight, see p. 13.

Your fork is designed to have damping due to friction of the springs on the guide rod, and the Girvin Oil Damping System. During the initial break-in period, the fork may feel stiff and overdamped (dead and unresponsive). After two or three rides, the damping will settle at the proper level.

MAINTENANCE

Your Girvin Fork requires minimal maintenance due to its Igus bushings and simple MCU spring system. However, you must do the following:

1. BEFORE EVERY RIDE, check all external screws and bolts for tightness.

2. BEFORE EVERY RIDE, check to make sure the lower links don't top out and hit the stop plates riveted to each fork leg. If they do, one of two things may need service:

   A. Check the top of the steerer tube to ensure that the edge of the tube sits 42-44mm higher than the top surface of the upper link mount. Readjust as necessary according to the instructions in **Installing Your Fork**, Step 1 (page 3).

   B. If spacer stack height is correct, check the shock absorber (page 9) to ensure the distance between the upper and lower eyelets is 188mm.

3. Over time, the lubricant between the springs and the guide rod will disappear, resulting in over-damped (stiff) spring action. To check lubrication, grab the springs and try to rotate them around the guide rod. If twisting is difficult, disassemble the spring unit and grease the springs and guide rod by hand. (See **C. Removal and Disassembly**, page 9.)

4. Every 50 hours of ride time, inspect all pivot rods, axles, and bearings for wear or stiff action. If stiff action/binding is present, take your fork to an Authorized Girvin/Pro•Flex dealer where all bearings may be disassembled and greased with a white lithium Teflon impregnated grease. (Girvin branded grease is ideal for linkage fork bearing applications.) Should pivots exhibit excessive wear, Girvin strongly recommends replacement of the bearings by a qualified technician.

Trouble Shooting Girvin Forks

Problem

•Vector I and Vector II misalignment

Solution-

1. Loosen the two stem clamp bolts.
2. Loosen the two lower link bolts (replace if not a 12.9 bolt) Kit #15020
3. Loosen the two eccentric axle bolts 1/2 turn.
4. Place front wheel between your legs.
5. Using the handle bars, turn until the stem and wheel are correctly aligned.
6. Torque stem bolts to 120 inch/lbs
7. Check eccentric rod position and torque to 100 inch/lbs.
8. Torque lower link bolts to 150 inch/lbs.
9. Recheck alignment.

NOTE: If you cannot align fork correctly, please check the upper link and axles for damage

Problem

•Vector I Sloppiness

Solution- Check all bearings and seals for wear or damages, replace as needed. Be careful not to pinch seals between axles when retightening. Use **Girvin Lube** on all bearings and axles.

Problem

•Vector II, Girvin AL, CL Sloppiness

Solution- Check all bearings and seals for wear or damage, replace as needed using while applying **"Girvin Lube"**. NOTE: Use Extreme kits: New Seals, New Links, Girvin Lube for bearings. Three kits availabe to service your Girvin fork.

•Extreme Links Kits - Upper and Lower kits are available. A new type of bearing is installed into the links. These bearings are make of nylon/glass fill material that have a long wear life and repel dirt and grit. A selection of anodized colors is available.

•New Seal Extreme Kit - We've also developed a long lasting, tough seal that will survive even the toughest season. The material, called Hostallay, is a high grade resin chosen for its long term wear resistance. Combined with a newly developed Girvin grease for the bearings, the seal/grease keeps the fork stiction free and completely responsive. Check all bearings and seals for wear or damage, replace as needed using "**Girvin Lube**"

Problem

•Vector I, Vector II, Girvin AL, CL Noise

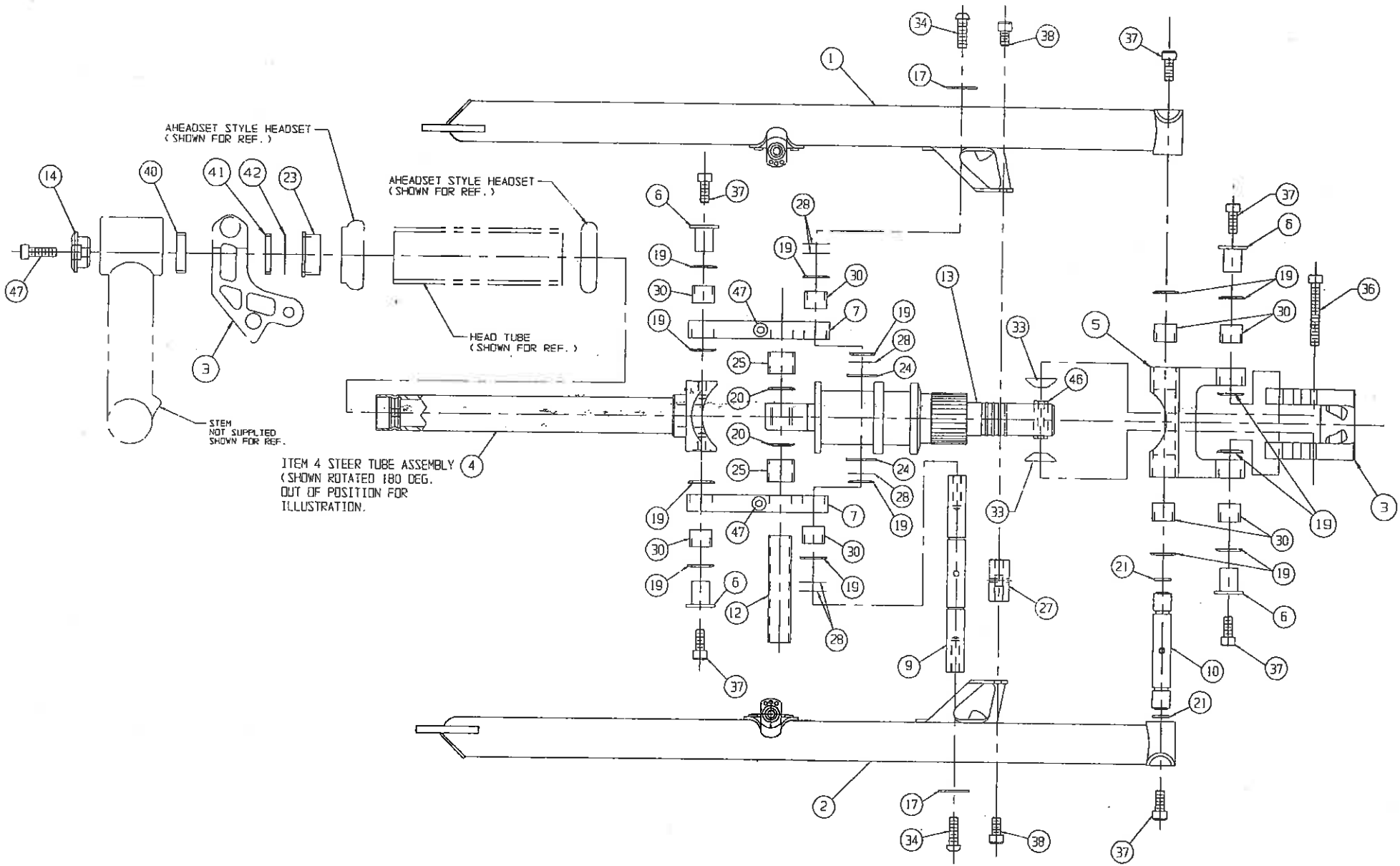
Solution- Use a white lithium w/ Teflon mix on all bearings. Check for seal and bearing wear or residue build up and replace as needed. USE: Extreme kits: New Seals, New Links, Special Grease for bearings. Three kits to service your Girvin fork.

Problem

•Fork Leg Dropout Bending

Solution- Use Standard dropout alignment tools. Gently bend dropouts with the tool. If considerably out of align please consult Girvin Tech Support.

CAUTION: **Excessive bending of dropouts may result in damage not be visible upon initial inspection. Damaged dropouts can be extremely dagerous, and can result in failure during use and severe injuries. Consult Girvin Tech Support for verification of dropout structural integrity.**



EXPLODED FRONT VIEW

VECTOR FORK W/ HYDRAULIC DAMPER
AND UPPER PIVOT LINK MOUNT
(14940IL)

Girvin PRO-FLEX
1 IN FULL SUSPENSION BIKES

1996 Girvin AL Fork with ODS

Standard

Drawing No.	Qty Needed	Part Number	Part Name/Description
1	1	14630-1P	L.H. Fork Tube
2	1	14629-1P	R.H. Fork Tube
3	1	14813	Upper Link Mount
4	1	15003-7	Steer Tube
5	1	14501	Upper Link
6	4	14497	Pivot, Axle
7	2	14502	Lower Link
8			NA
9	1	14490	Pivot Rod
10	1	14499	Axle Rod, Eccentric
11			NA
12	1	14109-1	Pivot Axle, Spring
13	1	14849-2	Hydraulic Spring Assembly
14	1	14127	Cap
15-16			NA
17	2	14122	Washer
18			NA
19	14	14996	Seal, Spacer
20	2	13891-2	Seal, Washer
21	2	14500	O-Ring
22			NA
23	1	14112-2	Bearing
24	2	14115	Retaining Ring
25	2	14489	Spacer
26			NA
27	1	14496	Spacer w/ cable stop
28	6	14180	Shim .005 thick
29			NA
30	8	14116	Bearing
31-32			NA
33	2	14852	Seal, Spacer Hydraulic Damper
34	2	14125	Screw
35			NA
36	1	14618	Screw .25
37	6	14131	Screw .15
38	2	14624	Screw .020
39			NA
40	1	14113-5	Spacer
41	1	14113-2	Spacer
42	1	14150	Spacer
43-45			NA
46	1	14851	Spacer Tube, Hydraulic Damper
47	3	13792-1	Screw
48	1	14856	Screw

REPLACEMENT PARTS

Crown Race Adapter, & A-Headset Part NO.'s		
Part #	Part Name	Size
GFAS1	Standard Fork	90-125MM Head Tube
GFAL1	Long Fork	125-160MM Head Tube
VK800	Crown Race Adapter	1 1/8"
VK400	Crown Race Adapter	1 1/4"
VH800	Tange A-Headset	1 1/8"
VH400	Tange A-Headset	1 1/4"

Part No. RK15003-5, RK15003-6			
Replacement Kit, Steer Tube			
Item #	Qty	Part #	Part Name
1	1	15003-5	Steer Tube (Standard)
1	1	15003-6	Steer Tube (Long)

Part No. RK15032			
Replacement Kit, Seals			
Item #	Qty	Part #	Part Name
1	6	14180	Shim Washer
2	14	14996	Seal Spacer
3	1	15033	Lube
4	2	13891-2	SealWasher,LowerPivot
5	2	14852	SealSpacer,UpperPivot

Part No. RK15031-1, RK15031-2, RK15031-3			
Replacement Kit, Lower Link			
Item #	Qty	Part #	Part Name
1	2	13792-1	Screw
2	4	14116	Bearing
3	6	14180	Shim Washer
4	2	14502-1	Lower Link (Silver)
5	2	14502-2	Lower Link (Red)
6	2	14502-3	Lower Link (Blue)
7	8	14996	Seal Spacer
8	1	15033	Lube
9	1	14490	Pivot Rod, Lwr Link
10	2	14497	Pivot Axle
11	2	13891-2	SealWasher,Lwr Pivot
12	1	14109-1	Pivot Axle,Spring Assy
13	1	14129	Bearing

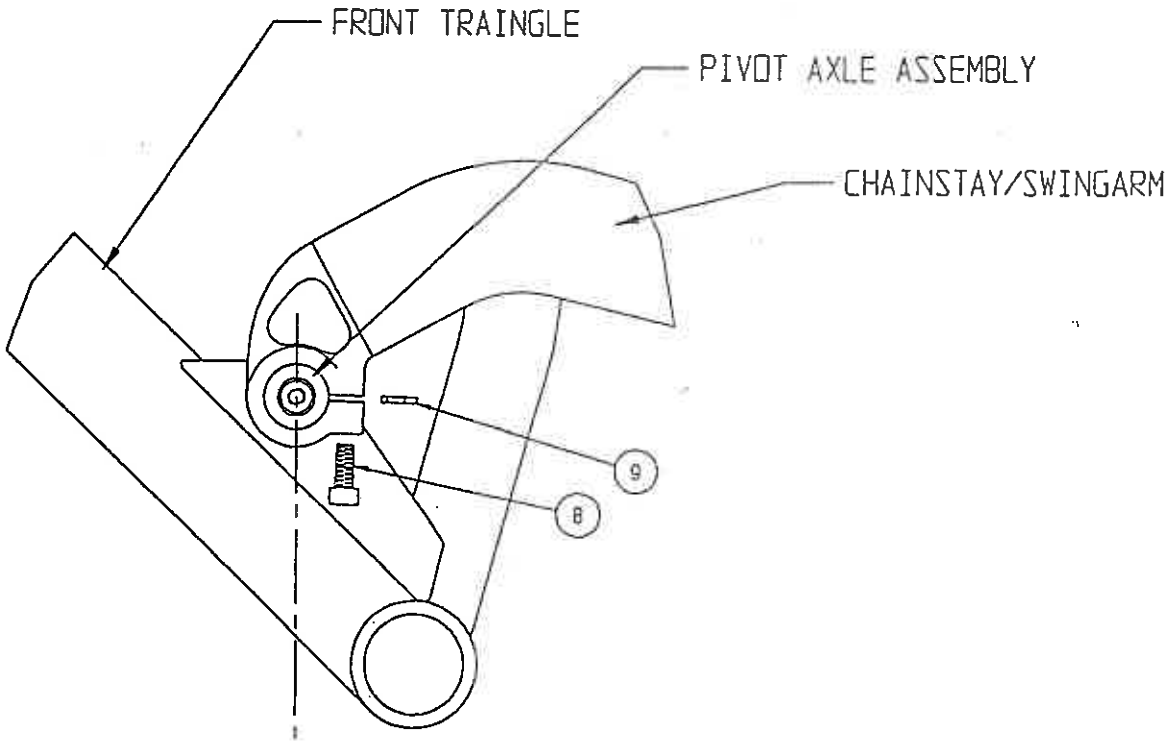
Part No. RK15030-1, RK15030-2, RK15030-3			
Replacement Kit, Upper Link			
Item #	Qty	Part #	Part Name
1	4	14116	Bearing
2	1	14499	Eccentric, Axle
3	2	14500	O-Ring
4	1	14501-1	Upper Link (Silver)
4	1	14501-2	Upper Link (Red)
4	1	14501-3	Upper Link (Blue)
5	6	14996	Seal Spacer
6	1	15033	Lube
7	2	14497	Pivot Axle

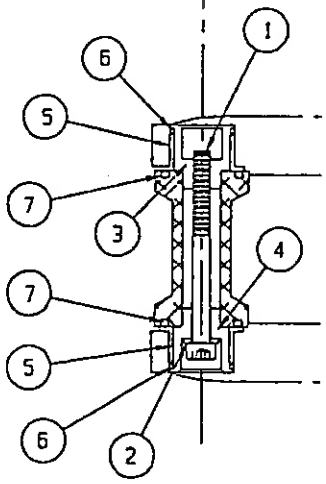
SPRING RATES

Girvin AL,CL ODS Fork Spring Chart **	
Spring Rate (Upper/Lower)	Rider Weight
50/30	90-120 lbs
60/40	100-140 lbs
70/50	120-160 lbs
80/60	140-180 lbs
90/70	160-200 lbs
100/80	200+ lbs

Girvin Vector 2, NON-ODS Fork Spring Chart **	
Spring Rate (Upper/Lower)	Rider Weight
40/20	90-120 lbs
50/30	100-140 lbs
60/40	120-160 lbs
70/50	140-180 lbs
80/60	160-200 lbs
90/70	200+ lbs

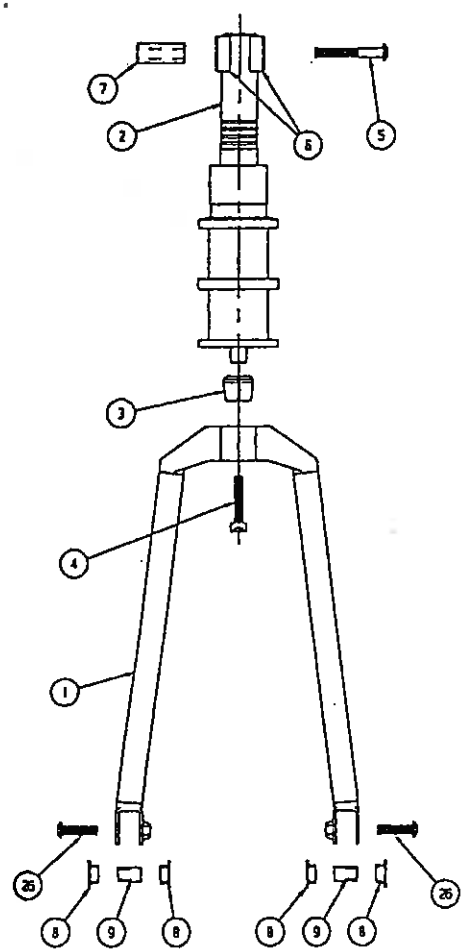
**Please remember these are recommendations. You may wish to try stiffer or softer springs than recommended due to the terrain you ride, your riding style, and personal preference.

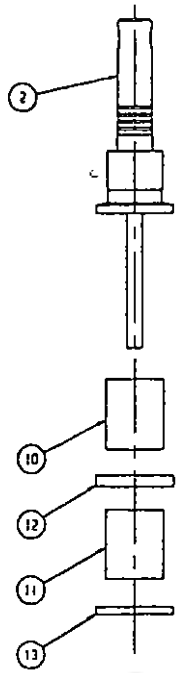


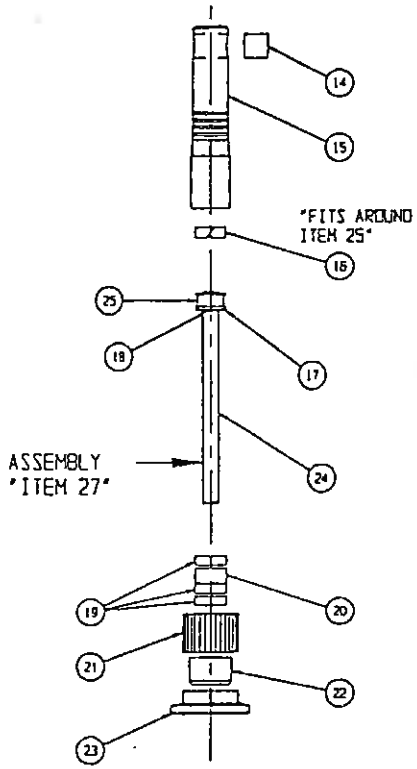


PARTIAL SECTION
BOTTOM VIEW
PIVOT AXLE ASSEMBLY

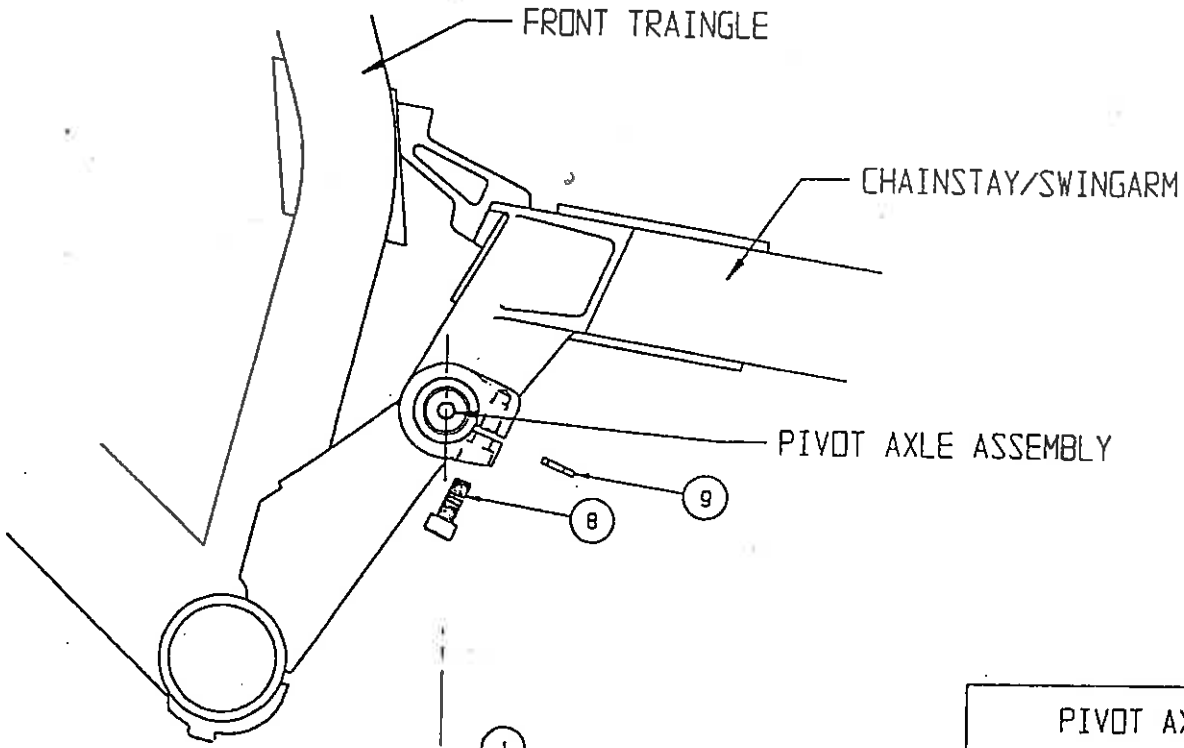
PIVOT AXLE ASSEMBLY "956"			
ITEM NO.	QTY.	DRAWING / PART NO.	PART NAME / DESCRIPTION
1	1	14471	SCREW, M6X1 X 65.0 LG. SOCKET HEAD
2	1	14475	WASHER, FLAT
3	1	14470	AXLE, LEFT SIDE (THREADED)
4	1	14469	AXLE, RIGHT SIDE
5	2	14472	BEARING, FLANGED
6	2	14473	O-RING -018
7	2	14601	O-RING -118
8	2	14131	SCREW, M6X1 X 15.0MM LG. SOCKET HEAD
9	2	14649	GASKET

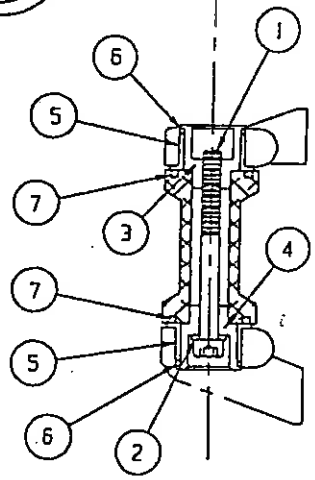






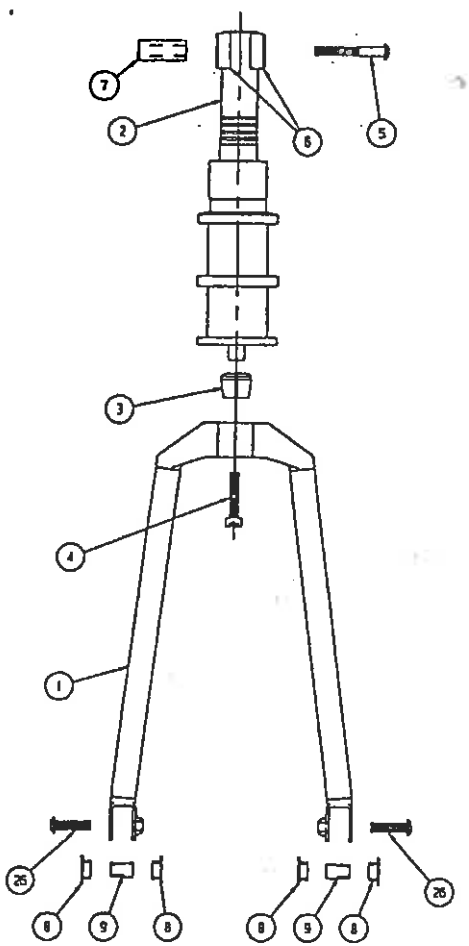
STRUT AND SPRING ASSEMBLY 956			
ITEM NO.	QTY.	DRAWING / PART NO.	PART NAME / DESCRIPTION
1	1	14938	ASSY, STRUT
2	1	14794	ASSY, DAMPER HYDRAULIC
3	1	14787	COLLET, SPLIT
4	1	14792-2	SCREW, M6X1 X 30.0 LG. SOCKET HEAD
5	1	14785	SCREW, M6X1 X 45.0 LG. BUTTON HEAD
6	2	14892	SEAL SPACER
7	1	14596	SPACER TUBE
8	4	13643	BEARING, FLANGED
9	2	13581	SPACER BUSHING
10	1	13943-2-XX	FOAM SPRING XX = 14" 80, 16" 90, 18" 100, 20" 120
11	1	13943-2-XX	FOAM SPRING XX = 14" 90, 16" 100, 18" 110, 20" 130
12	1	14793	RETAINER, CENTER
13	1	14789	RETAINER, BOTTOM
14	1	14163	BEARING
15	1	14797	HOUSING, TUBE
16	1	14806	BEARING, OUTER PISTON
17	1	14802	WASHER, VALVE
18	1	14803	WASHER
19	3	14805	BEARING
20	1	14804	SEAL, SHAFT
21	1	14792	ADJUSTER, PRELOAD
22	1	14800	CAP, SCREW
23	1	14790	RETAINER, TOP SPRING
24	1	14799	SHAFT, SPRING
25	1	14801	PISTON
26	2	14676-2	SCREW, M6X1 X 23.0 LG. BUTTON HEAD
27	1	14895	SWAGED, PISTON ASSEMBLY INCLUDES: ITEMS 17, 18, 24, 25 ASSEMBLED AT FACTORY

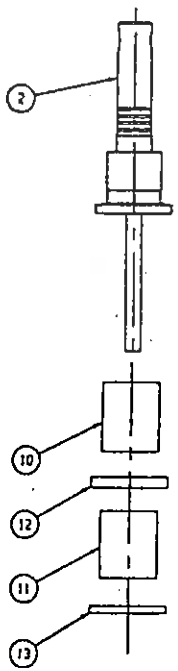


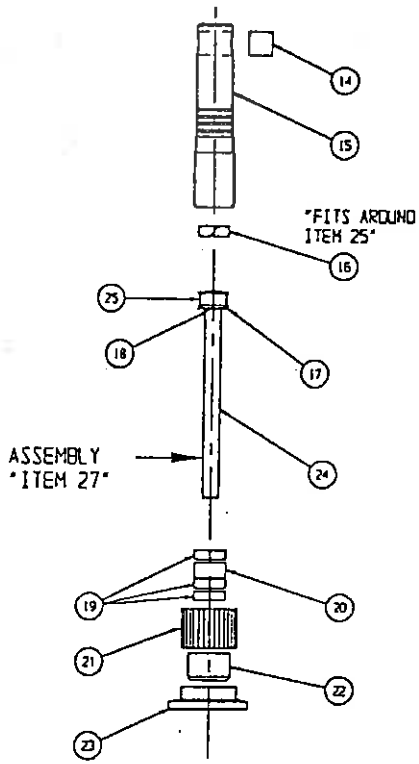


PARTIAL SECTION
BOTTOM VIEW
PIVOT AXLE ASSEMBLY

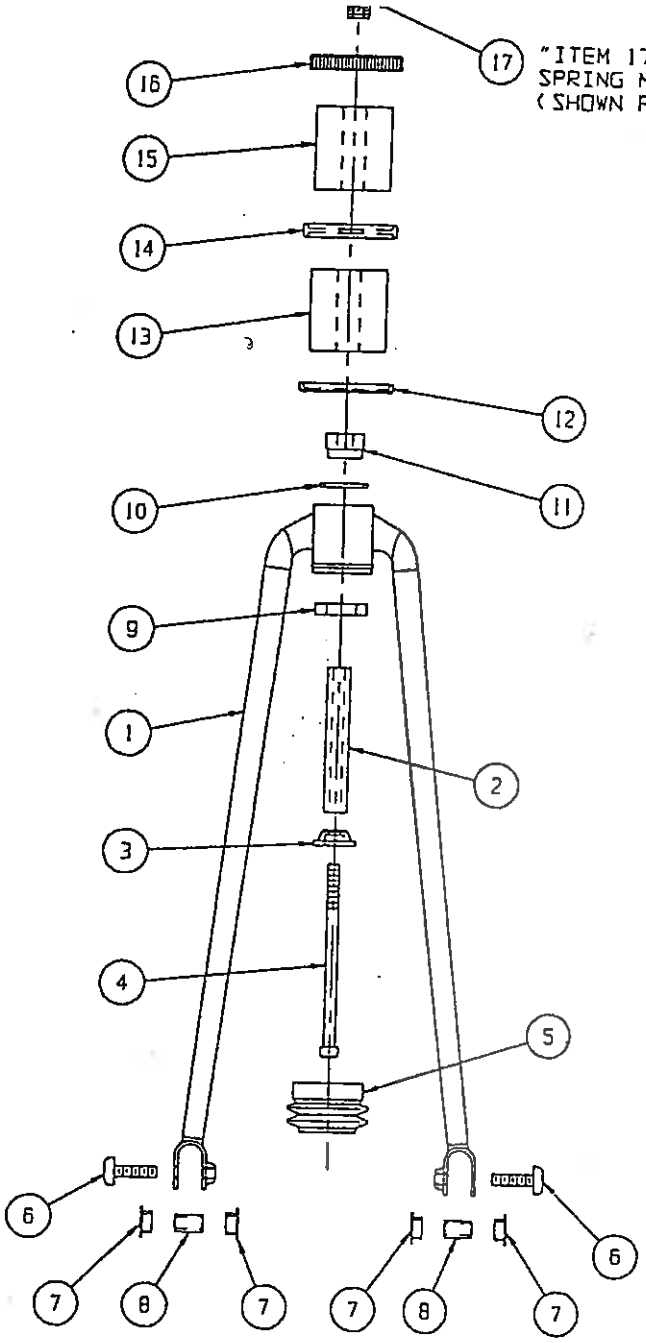
PIVOT AXLE ASSEMBLY 756, 856, BEAST, ANIMAL			
ITEM NO.	QTY.	DRAWING / PART NO.	PART NAME / DESCRIPTION
1	1	14471	SCREW, M6X1 X 65.0 LG. SOCKET HEAD
2	1	14475	WASHER, FLAT
3	1	14470	AXLE, LEFT SIDE (THREADED)
4	1	14469	AXLE, RIGHT SIDE
5	2	14472	BEARING, FLANGED
6	2	14473	O-RING -018
7	2	14601	O-RING -118
8	2	14131	SCREW, M6X1 X 15.0MM LG. SOCKET HEAD
9	2	14649	GASKET





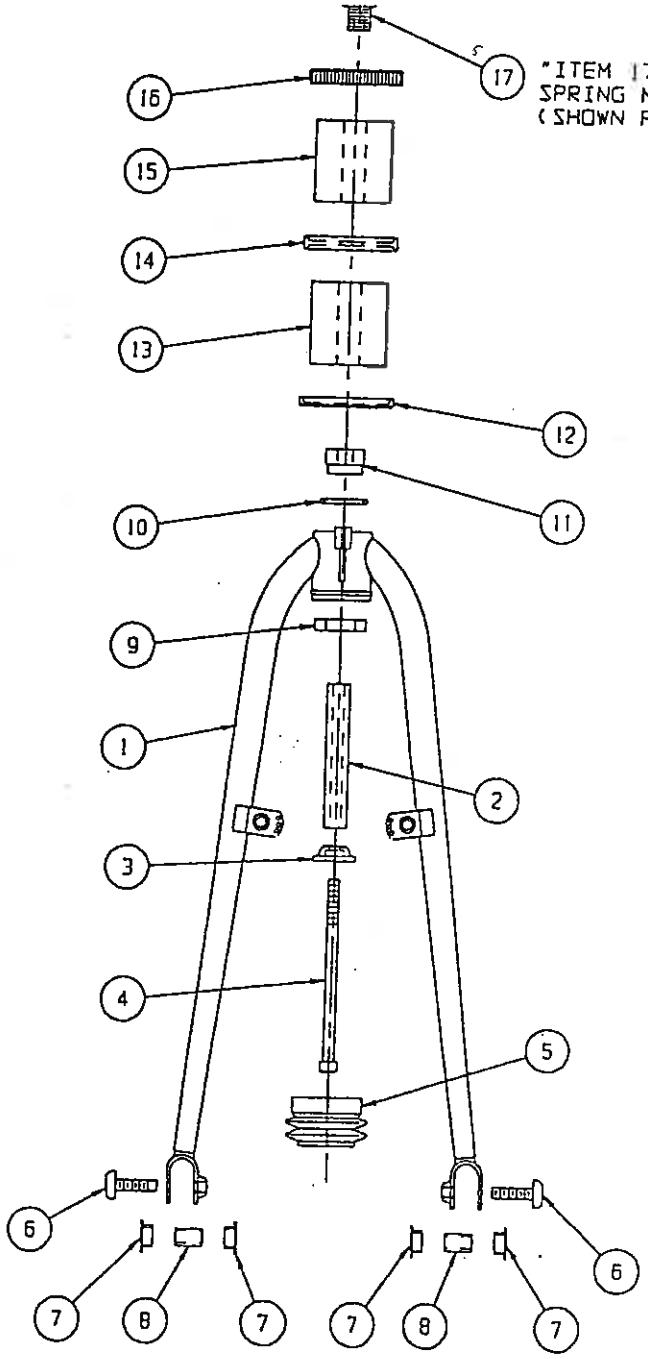


STRUT AND SPRING ASSEMBLY 756, 856, BEAST, ANIMAL			
ITEM NO.	QTY.	DRAWING / PART NO.	PART NAME / DESCRIPTION
1	1	14784	ASSY, STRUT
2	1	14794	ASSY, DAMPER HYDRAULIC
3	1	14787	COLLET, SPLIT
4	1	14792-2	SCREW, M6X1 X 30.0 LG. SOCKET HEAD
5	1	14785	SCREW, M6X1 X 45.0 LG. BUTTON HEAD
6	2	14892	SEAL SPACER
7	1	14596	SPACER TUBE
8	4	13643	BEARING, FLANGED
9	2	13581	SPACER BUSHING
10	1	13943-2-XX	FOAM SPRING XX = 14" 80, 16" 90, 18" 100, 20" 120
11	1	13943-2-XX	FOAM SPRING XX = 14" 90, 16" 100, 18" 110, 20" 130
12	1	14793	RETAINER, CENTER
13	1	14789	RETAINER, BOTTOM
14	1	14163	BEARING
15	1	14797	HOUSING, TUBE
16	1	14806	BEARING, OUTER PISTON
17	1	14802	WASHER, VALVE
18	1	14803	WASHER
19	3	14805	BEARING
20	1	14804	SEAL, SHAFT
21	1	14792	ADJUSTER, PRELOAD
22	1	14800	CAP, SCREW
23	1	14790	RETAINER, TOP SPRING
24	1	14799	SHAFT, SPRING
25	1	14801	PISTON
26	2	14676-2	SCREW, M6X1 X 23.0 LG. BUTTON HEAD
27	1	14895	SWAGED, PISTON ASSEMBLY INCLUDES: ITEMS 17, 18, 24, 25 ASSEMBLED AT FACTORY



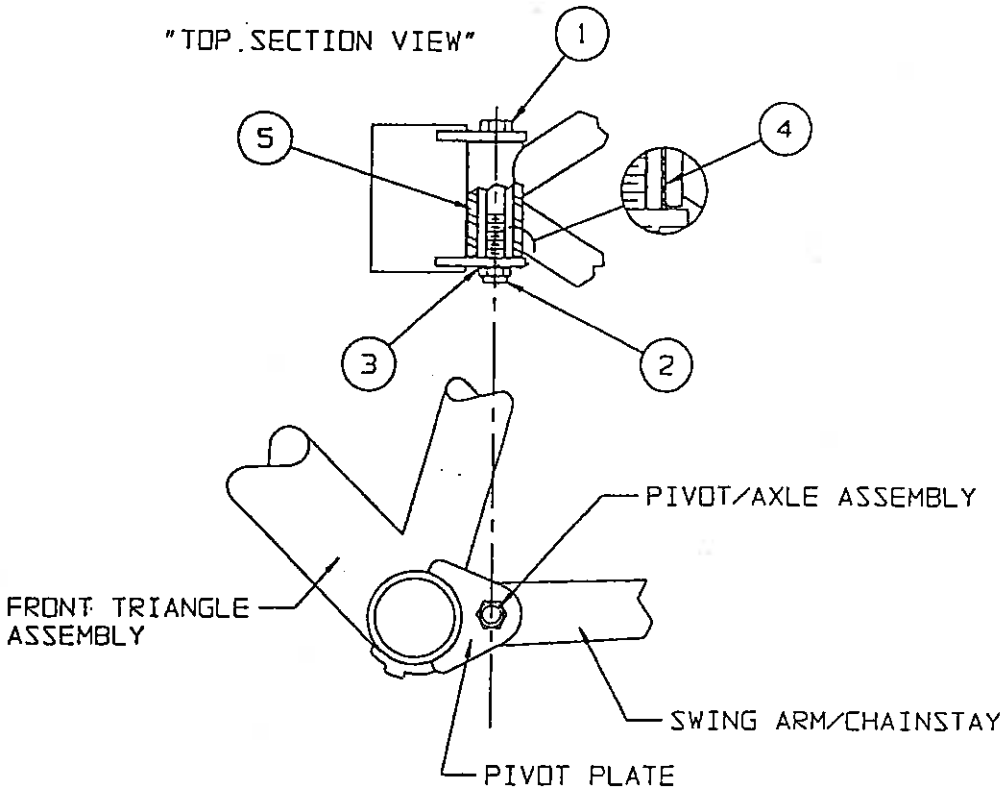
SEATSTAY/SPRING ASSEMBLY "656"

ITEM NO.	QTY.	DRAWING / PART NO.	PART NAME / DESCRIPTION
1	1	14711	ASSY, SEATSTAY
2	1	14263	TUBE, SPRING
3	1	13575	STOP
4	1	14252	SCREW, M6X1 X 100.0 LG. SOCKET HEAD
5	1	14262	END CAP, EXPANDABLE
6	2	13676-2	SCREW, M6X1 X 23.0 LG. BUTTON HEAD
7	4	13644-2	BEARING, FLANGED
8	2	13581	SPACER, BUSHING
9	1	14275	SPRING, REBOUND
10	1	13657	O-RING
11	1	13941	BEARING
12	1	14264	RETAINER, LOWER
13	1	13943-2-XX	FOAM SPRING XX= 14" 70, 16" 80, 18" 90, 20" 110
14	1	14265	RETAINER, CENTER
15	1	13943-2-XX	FOAM SPRING XX= 14" 90, 16" 100, 18" 110, 20" 130
16	1	14268	RETAINER, KNURLED
17	1	14718	STUD, DOUBLE THREADED



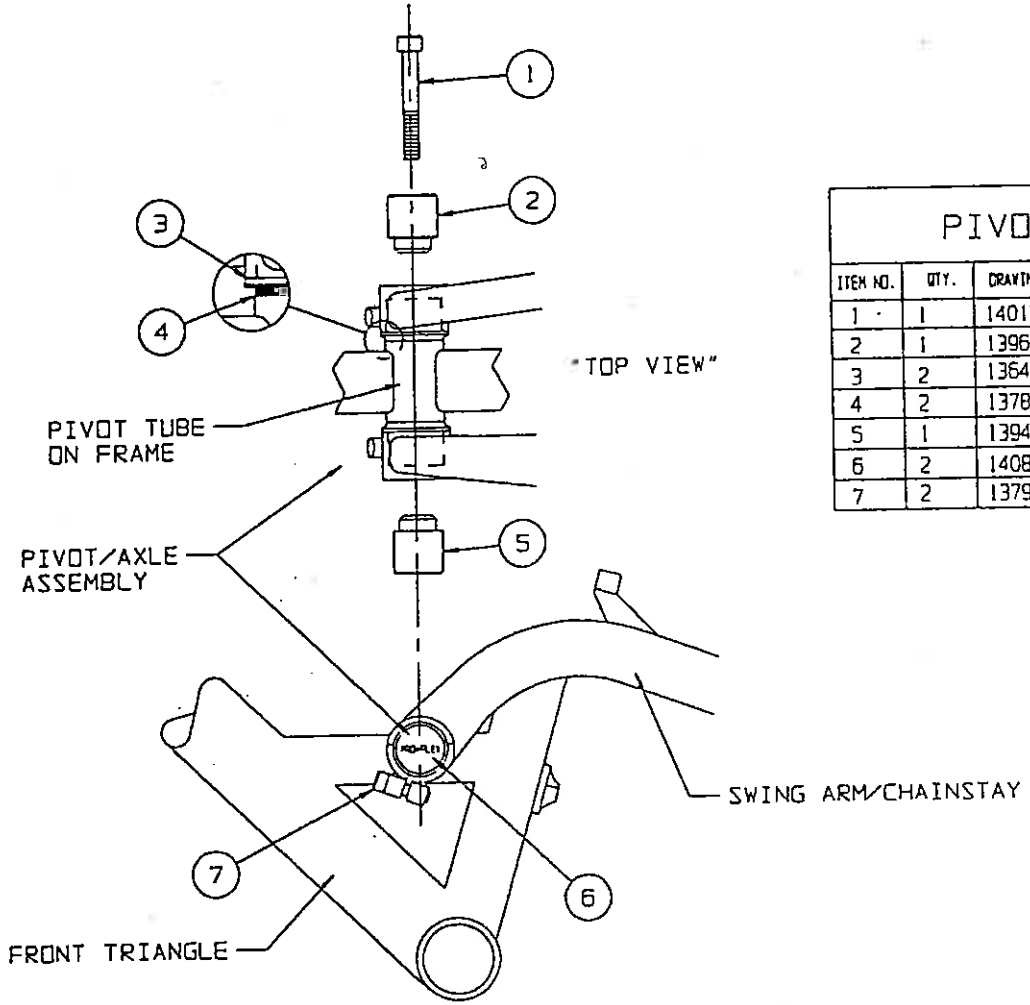
SEATSTAY/SPRING ASSEMBLY "ATTACK"

ITEM NO.	QTY.	DRAWING / PART NO.	PART NAME / DESCRIPTION
1	1	14888	ASSY, SEATSTAY
2	1	14263	TUBE, SPRING
3	1	13575	STOP
4	1	14252	SCREW, M6X1 X 100.0 LG. SOCKET HEAD
5	1	14262	END CAP, EXPANDABLE
6	2	13676-2	SCREW, M6X1 X 23.0 LG. BUTTON HEAD
7	4	13644-2	BEARING, FLANGED
8	2	13581	SPACER, BUSHING
9	1	14275	SPRING, REBOUND
10	1	13657	O-RING
11	1	13941	BEARING
12	1	14264	RETAINER, LOWER
13	1	13943-2-XX	FOAM SPRING XX= 14" 20, 16" 40, 18" 50, 20" 60
14	1	14265	RETAINER, CENTER
15	1	13943-2-XX	FOAM SPRING XX= 14" 40, 16" 60, 18" 70, 20" 80
16	1	14268	RETAINER, KNURLED
17	1	14718	STUD, DOUBLE THREADED



PIVOT/AXLE ASSEMBLY "ATTACK"

ITEM NO.	QTY.	DRAWING / PART NO.	PART NAME / DESCRIPTION
1	1	14273	BOLT, M8X1.25 X 70.0 LG. HEX HEAD
2	1	14274	NUT, LOCK W/ NYLON INSERT M8X1.25
3	1	13564	WASHER, FLAT
4	2	14254	BEARING, FLANGED
5	1	14256	SPACER TUBE



PIVOT/AXLE ASSEMBLY "656"			
ITEM NO.	QTY.	DRAWING / PART NO.	PART NAME / DESCRIPTION
1	1	14017	SCREW, M8X1.25 X 55.0 LG. SOCKET HEAD
2	1	13960	AXLE, RIGHT SIDE
3	2	13644-2	BEARING, FLANGED
4	2	13788	SEAL, AXLE
5	1	13948	AXLE, LEFT SIDE THREADED
6	2	14085	CAP, AXLE PIVOT
7	2	13792-1	SCREW, M6X1 X 25.0 LG. SOCKET HEAD

Girvin PRO-FLEX TECH FORCE

GIRVIN ODS SERVICE INSTRUCTION

Tools and supplies needed for servicing GIRVIN ODS

1. Adjustable pin spanner.
2. Two 19mm cone wrenches.
3. Axle vise (used for adjusting hub axles).
4. Bench mounted vise.
5. Calipers or Measuring device for fluid level.
6. SAE shock oil (not motor oil), Spec is 30 SAE Fork Oil.
7. GIRVIN cylinder tool.

CHANGING SHOCK OIL FRONT ODS , REAR ODS

1. Open ODS unit (see opening ODS unit instructions).
2. Completely flush all the oil from the piston valving using a air compressor or a clean dry rag.
3. Clean all old oil from the ODS cylinder tube.

Important !
At this time you should check the piston, axle, an all seals for wear or scarring.
Cylinder must be completely dry of oil and any other fluid.

Replacing shock oil

1. Add shock oil to the ODS cylinder tube **without the piston inserted in the tube.**
2. The shock oil level should be measured from the top edge of the ODS tube to top surface of shock oil.

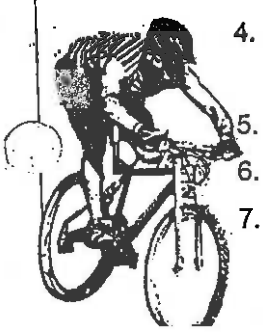
ODS UNIT	SHOCK OIL LEVEL	INSTRUCTIONS
FRONT	44MM	Piston not installed, 10.4 cc of total shock oil
REAR	53MM	Piston not installed, 12.4 cc of total shock oil

Important! Remember this should be only SAE shock oil used for suspension forks.
This type of oil can usually be found at your local motorcycle service center.

Re-Install Piston Assembly After Maintenance:

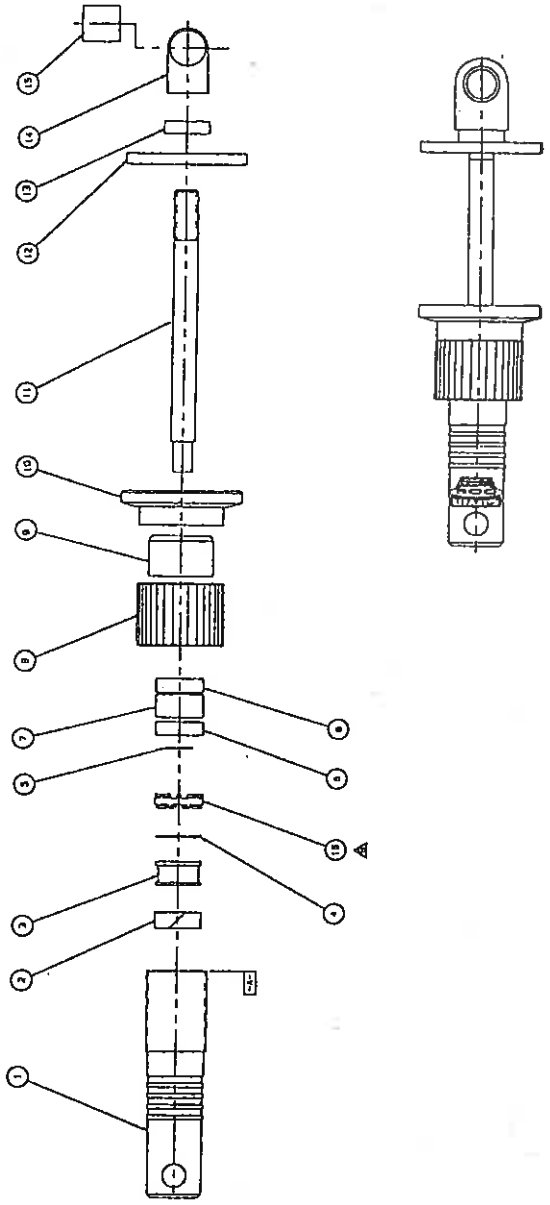
1. Fill the ODS cylinder tube to the correct fluid level.
2. Install bearings, seals, and washers in the correct order onto the piston shaft (see drawing).
3. Gently push the piston assembly into the cylinder tube until the black shaft seal is the next to be installed.

Install the shaft seal so that the open end of the seal is facing towards the ODS cylinder

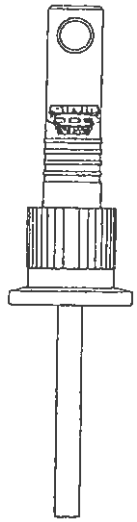


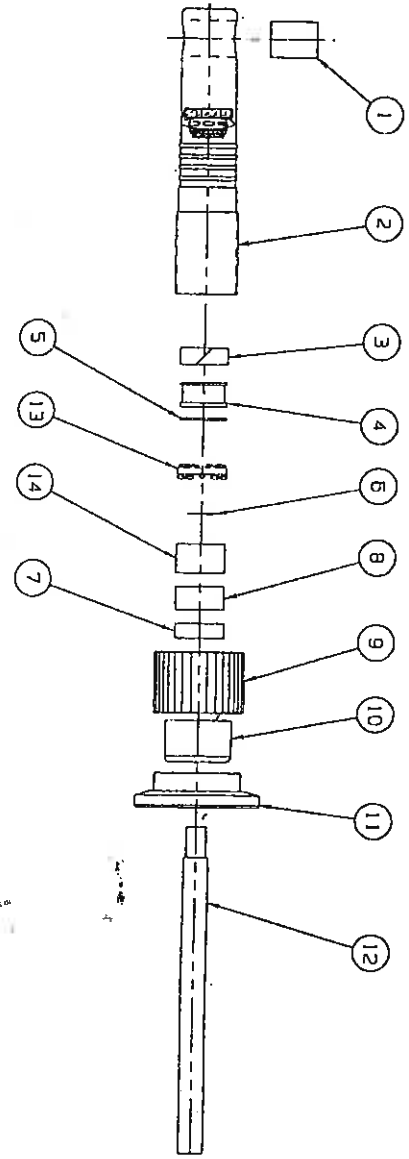
4. Using the cylinder tool, gently tap the black shaft seal until it is completely flush with the top of the ODS cylinder tube.
5. Using the cylinder tool again, gently tap the last metal bearing until it is flush with the cylinder tube.
6. Screw on the screw cap and hand tighten with a pin spanner.
7. Lightly grease the two mcu's and install in the correct order.

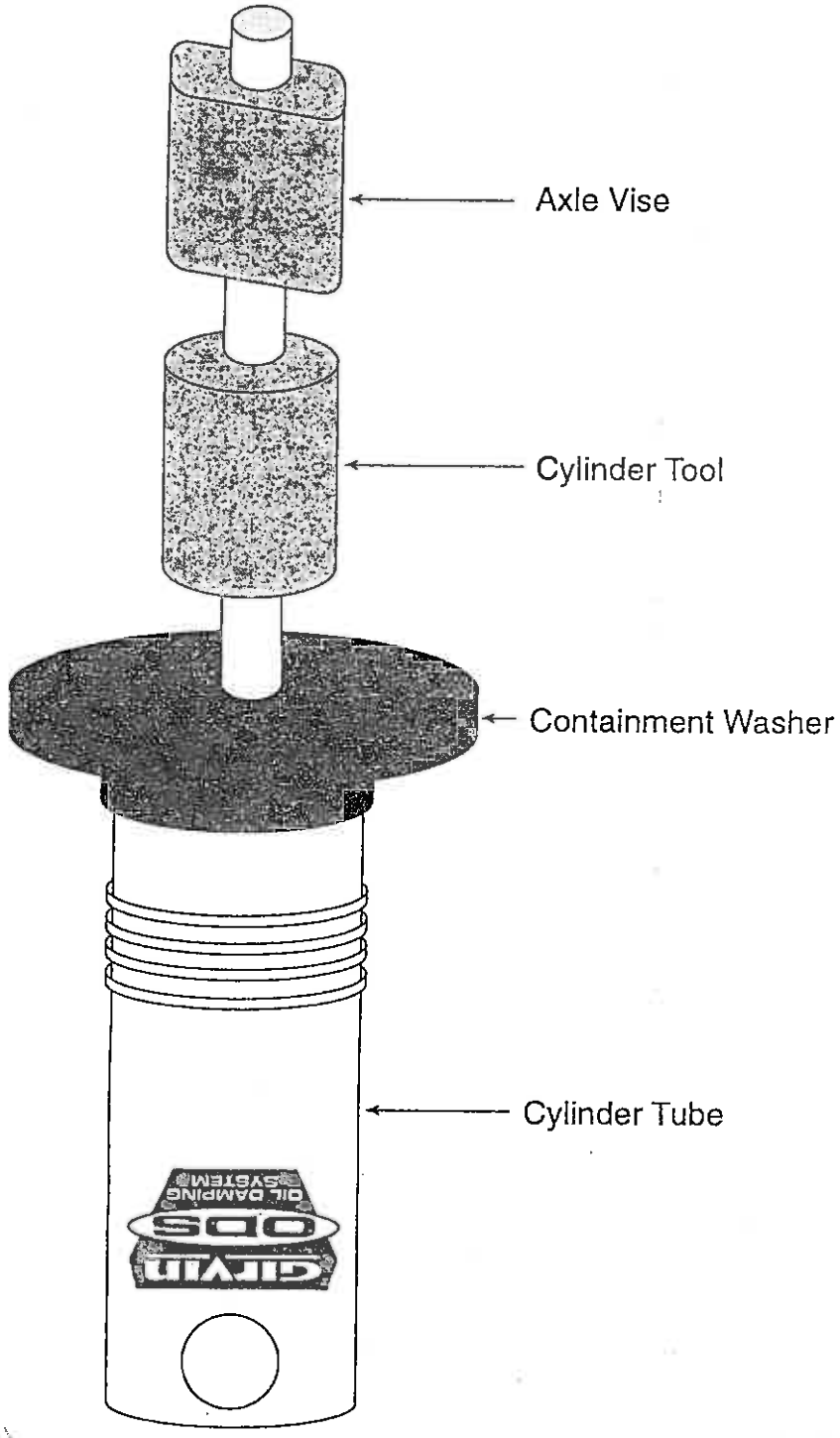
FRONT ODS (EXPLODED VIEW)

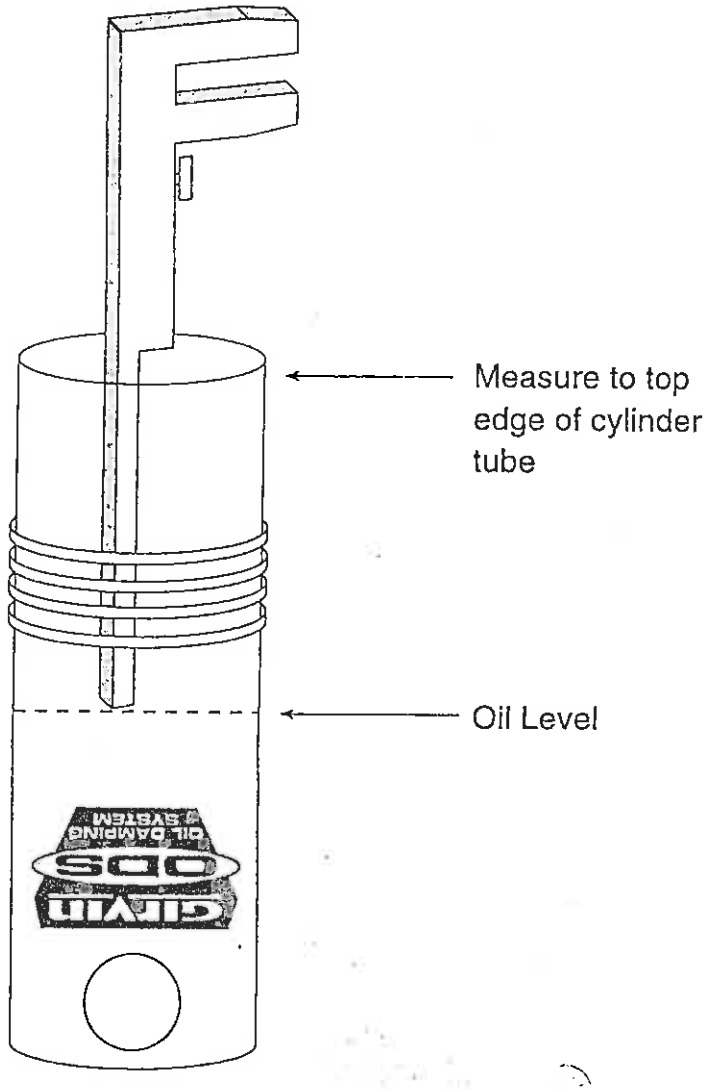


REAR ODS (EXPLODED VIEW)






Axle Vise
Cylinder Tool
Containment Washer
Cylinder Tube


Measure to top edge of cylinder tube
Oil Level

GIRVIN PROFLEX
#1 IN FULL SUSPENSION BIKES

1996 Hydraulic Damper Assembly

Rear

Drawing No.	Qty Needed	Part Number	Part Name/Description
1	1	14998	Igus Bearing
2	1	14797	Housing Tube
3	1	14806	Outer Piston Bearing
4	1	14801	Piston
5	1	14802	Valve Washer
6	1	14803	Washer
7	1	14805	Bearing
8	1	14804	Shaft Seal
9	1	14792	Preload Adjuster
10	1	14800	Screw Cap
11	1	14790	Top Spring Retainer
12	1	14799	Spring Shaft
13	1	15005	Snubber
14	1	15013	Shaft Bearing

1996 Hydraulic Damper Assembly

Front

Drawing No.	Qty Needed	Part Number	Part Name/Description
1	1	14796	Housing Tube
2	1	14806	Outer Piston Bearing
3	1	14801	Piston
4	1	14802	Valve Washer
5	1	14803	Washer
6	2	14805	Bearing
7	1	14804	Shaft Seal
8	1	14792	Preload Adjuster
9	1	14800	Screw Cap
10	1	14790	Top Spring Retainer
11	1	14798	Spring Shaft
12	1	14791	Bottom Spring Retainer
13	1	14814	Lock Nut
14	1	14795	Lower Pivot
15	1	14129	Bearing Pivot Mount
16	1	15005	Snubber