



**AMP Research Suspension Fork**

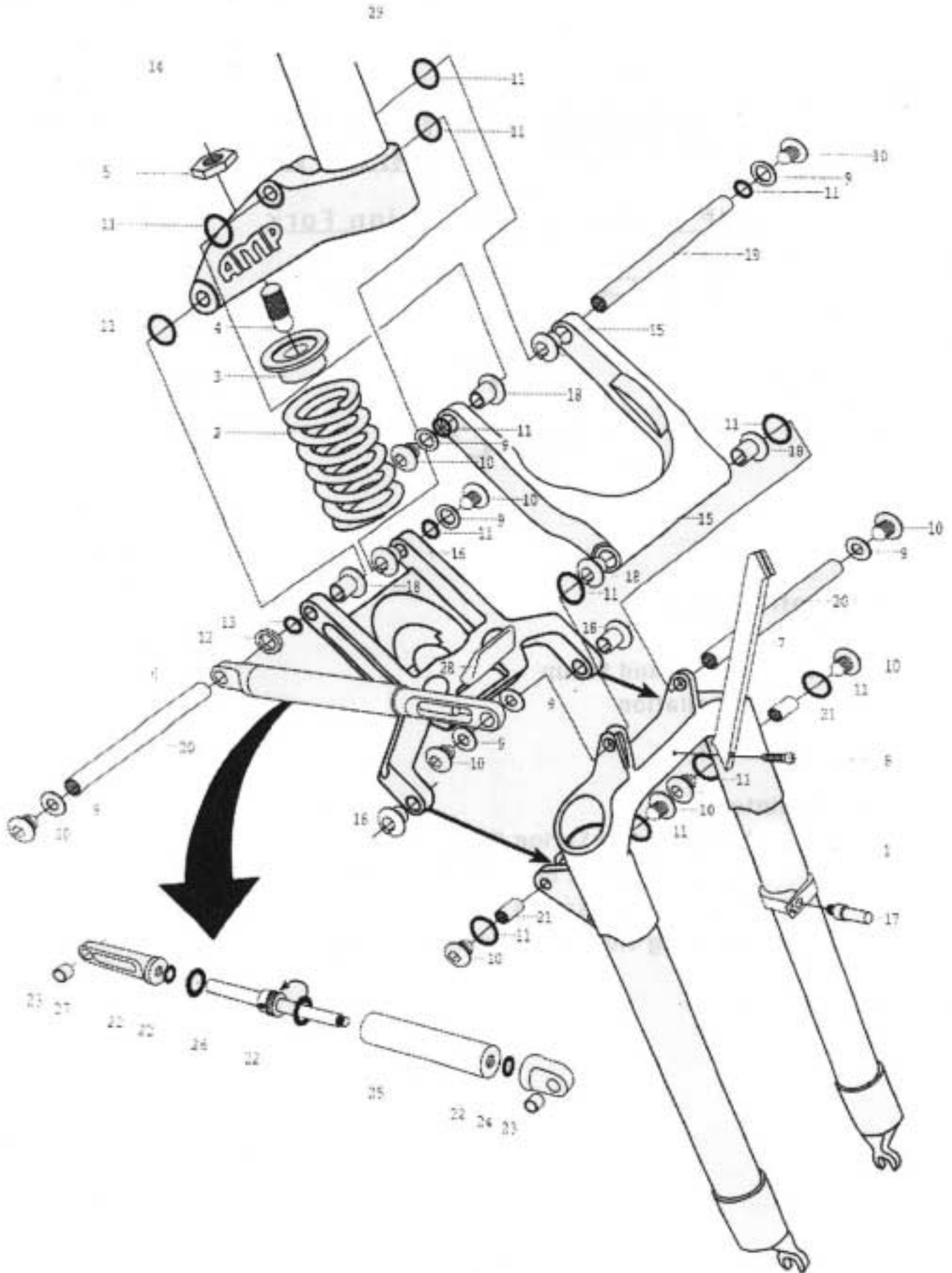
**Owner's & Service Manual**

**F3XC**

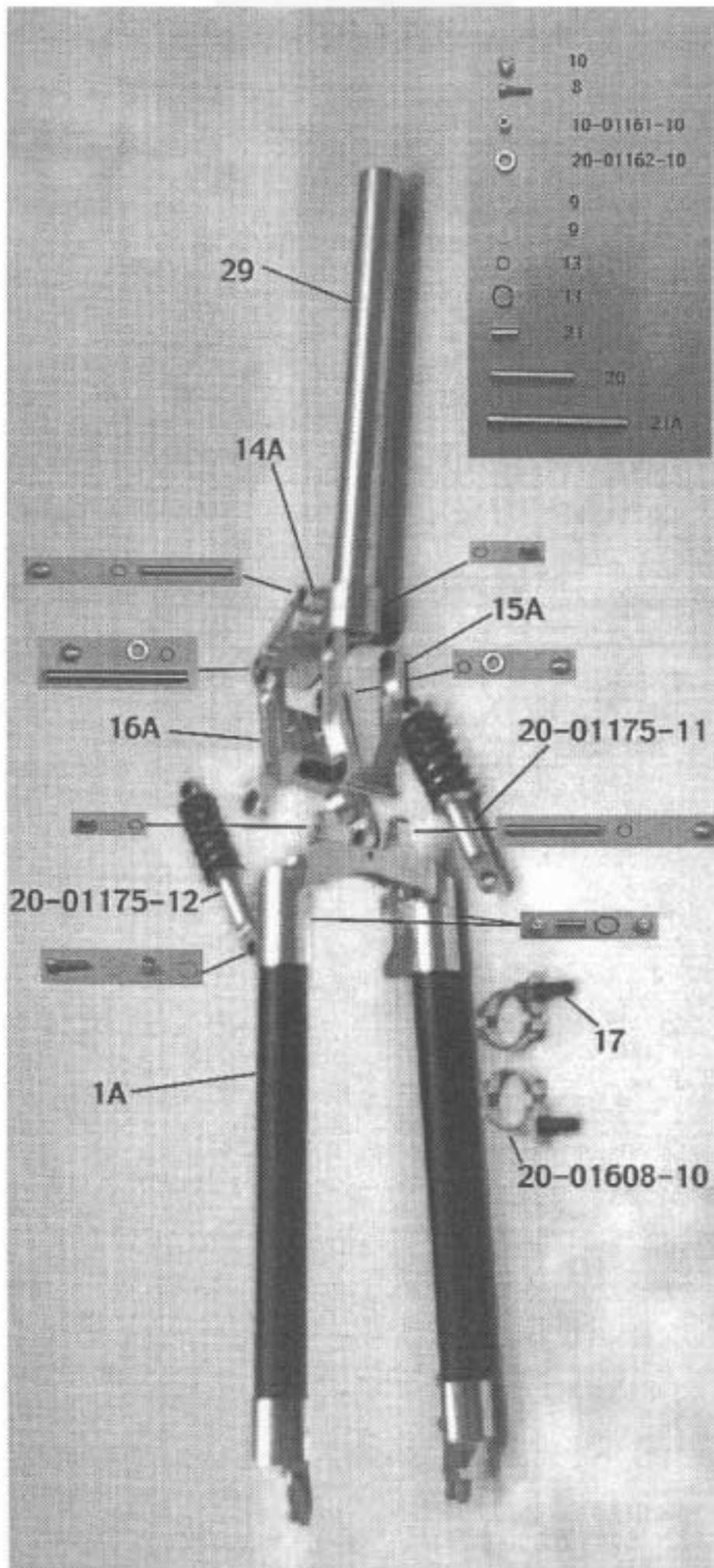
**F4BLT**

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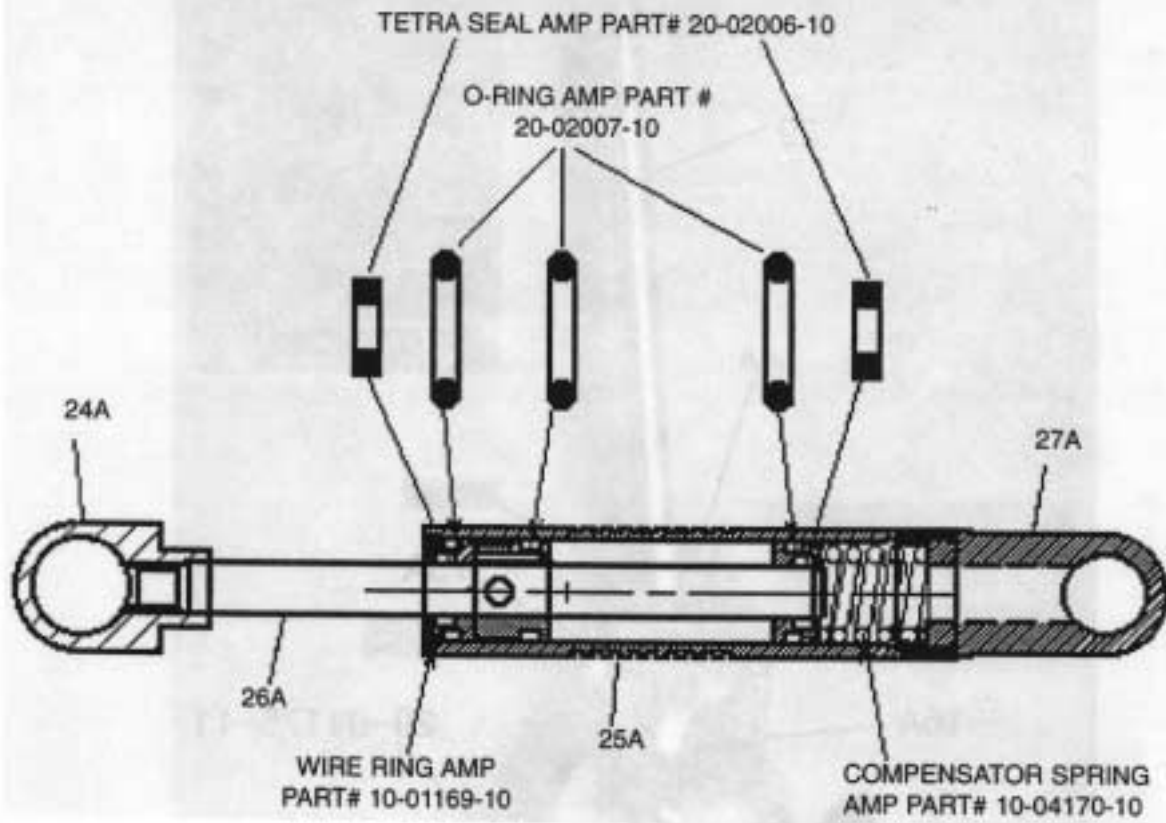
# F3 EXPLODED VIEW



# F4 EXPLODED VIEW



# F4 BLT SHOCK ASSEMBLY



## PARTS LIST F3/ F4

PICTURE NUMBER	PART NAME	PART NUMBER
	Pin & Bushing Kit F3	10-04141-10
	Pin & Bushing Kit F4	10-04144-10
	O-Ring Kit F3 Shock	10-04140-10
	O-Ring Kit F4 Shock (per shock)	10-04143-10
1	F3 Forkblade Assy - Canti & Disc *	10-05235-10
	F3 Forkblade Assy - Disc *	10-05236-10
	F4 Forkblade Assy - Canti & Disc *	10-05634-10
1A	F4 Forkblade Assy - Disc *	10-05633-10
2	F3 Spring - 1060# - Standard	10-01060-10
	F3 Spring - 850# - Optional	10-00850-10
	F3 Spring - 1200# - Optional	10-01200-10
	F4 Spring - 350# - Standard (on shock)	10-01138-10
	F4 Spring - 400# - Standard (on shock)	10-01142-10
	F4 Spring - 450# - Optional (on shock)	10-01626-10
3	Preload Collar	20-00665-10
4	Preload Screw	10-00613-10
5	Nut for Pre-Load Screw	10-02003-10
6	F3 Shock (complete Assy)	10-00747-10
7	Cablehanger	10-01106-10
8	Socket Cap Screw	10-02021-10
9	Nylon Washer (included in P & B Kits)	
10	Cap Screws	10-01175-10
11	O-Ring (included in P & B Kits)	
12	Shock Spacer	10-00676-10
13	O-Ring	10-02112-10
14	F3 Steerclamp - 1 1/8"	10-01149-10
	F3 Steerclamp - 1"	10-1149A-10
14A	F4 Steerclamp - 1 1/8"	10-01134-10
	F4 Steerclamp - 1"	10-01180-10
15	F3 Upper Swingarm	10-01151-10
15A	F4 Upper Swingarm	10-01135-10
16	F3 Lower Swingarm	10-01150-10
16A	F4 Lower Swingarm	10-01132-10
17	Canti Brake Boss	10-00653-10
18	Du Bearing (included in P & B Kits)	20-02001-10
19	Bearing Shaft (included in P & B Kits)	30-01197-10
20	Bearing Shaft (included in P & B Kits)	30-01196-10
21	Bearing Shaft (included in P & B Kits)	30-01195-10
21A	Bearing Shaft (included in P & B Kits) F4 Only	30-01140-10
24	F3 Shock Eyelet Assy	10-00640-10
24A	F4 Shock Eyelet Assy	10-01139-10
25	F3 Shock Housing Assy	10-00632-10
25A	F4 Shock Housing Assy	10-01141-10
26	F3 Shock Shaft & Piston Assy	10-02034-10
26A	F4 Shock Shaft & Piston Assy	10-04402-10
27	F3 Shock Endcap Assy	10-00633-10
27A	F4 Shock Endcap Assy	10-01629-10
29	Steertubes (call for specific sizes)	



## I. INTRODUCTION

**WARNING!** Special tools and knowledge are required to install this fork. Incorrect installation could create a dangerous riding condition which may result in serious injury. It is strongly recommended that you have your suspension fork installed by a qualified, professional bicycle mechanic.

## II. INSTALLATION AND SETUP

### A. INSTALLATION

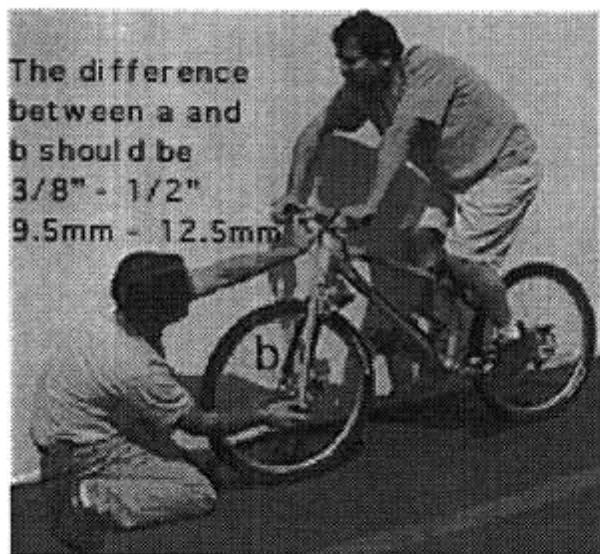
1. Remove the front wheel. Remove the fork from the bike, and remove the headset and bearing race from the old fork. Before permanently installing the crown race, check for adequate clearance between the down tube and the fork crown. If additional clearance is necessary, use the washers (supplied with the fork) underneath the crown race, making sure that the crown race is seated firmly.



2. Install the fork assembly on the bike, and adjust the head set until no play or drag is detected.
3. For disc brake installation see Disc Brake Owner's Manual.
4. **IMPORTANT!** With the front wheel in the fork there should be  $7/16"$  (11mm) of clearance between the top of the tire and the bottom of the fork crown. If a tire is used that does not maintain this distance, there is the possibility of the tire hitting the linkage under full compression.

### B. SETUP

1. Suspension sag has been set at the factory. However, after the first ride it is advisable to check sag. Measure the distance from the bottom of the handlebar to the front axle with no weight on the bike (distance (a) on figure). Sit in your normal riding position and have someone take a measurement of the same points (distance (b) in figure). The difference between these two measurements (a and b) should be between  $3/8"$  and  $1/2"$ .
2. To adjust spring preload on the F3XC loosen the jam nut under the linkage assembly and tighten or loosen the preload screw. Tighten jam nut after correct sag is set.
3. Optional spring rates are available directly from AMP Research or through your authorized AMP Research dealer. The spring provided will work well for most riders between 104lbs. and 190lbs.



### III. MAINTENANCE

No regular maintenance is required. All bearings are maintenance free. Constant riding in mud and muddy sand may reduce bearing life. It is important to keep pivot points clean by rinsing with water. **Do not use any type of lubricant on bearings after rinsing off your fork.** Lubricants will attract dirt and carry it into the pivot points where it will act as an abrasive. If the bearings need to be changed, bearings and pins must be changed simultaneously. See your authorized AMP Research Dealer or contact AMP Research for replacement.

If a squeaking noise becomes noticeable, turn your bike upside down and squirt water on the preload collar and preload screw. This should eliminate the noise. You may lube the preload collar and preload screw contact area using a high-quality motorcycle chain lube.

#### A. CHANGING THE SPRING (F3XC)

##### TOOLS REQUIRED

\*4mm Allen Wrench

\*13mm Wrench

\*Flat Screw Driver

1. Remove shock from fork by removing Allen screws and nylon washers (Parts 9, 10) and sliding shock from shafts (Part 20).
2. Extend fork and remove spring (Part 2).
3. Put some high-quality grease on the preload collar (Part 3) where it contacts the ball end of the preload adjuster (Part 4).
4. Make sure spring (Part 2) is seated properly and compress fork to hold spring in place.
5. Mount shock back on fork (Part 9, 10, 20).
6. Re-set spring preload as described in Section II - B.

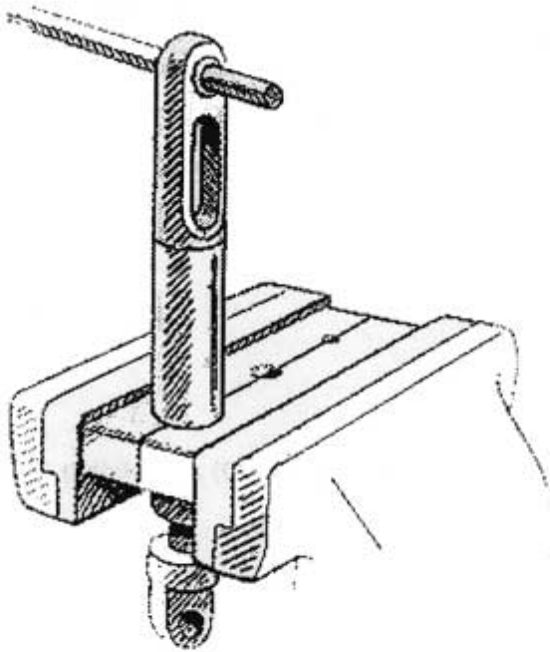
**NOTE:** Always use Loctite 242 on the Allen screws and never over tighten screws. Slightly more than hand tight is plenty.



## B. CHANGING SHOCK OIL AND SEALS (F3XC)

### TOOLS REQUIRED

- \* Vice
- \* 4mm Allen Wrench
- \* 5/16" x 3" Pin (a 5/16" or 8mm bolt will work)
- \* Shock Clamp Tool (#10-00760-10)
- \* Automatic Transmission Fluid (Dexron or Mercon) or Finishline Shock Oil (5, 7.5 or 10 weight)



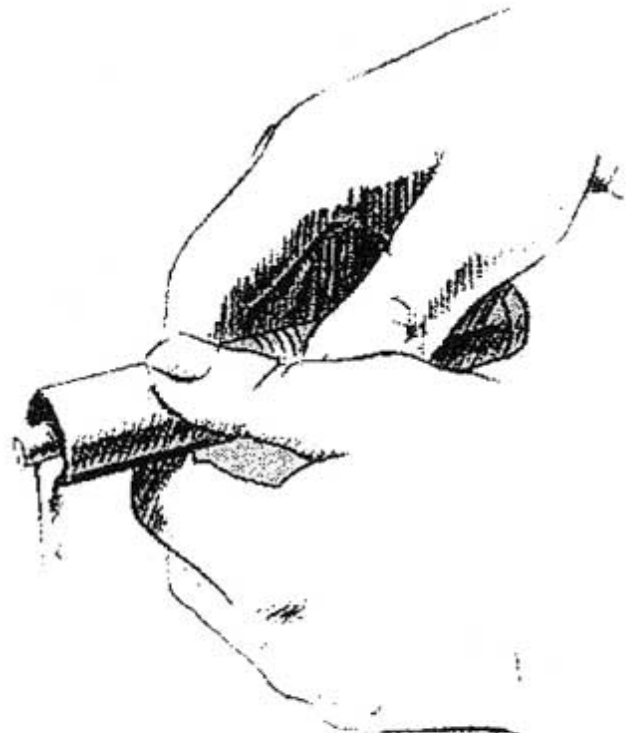
1. Remove shock from fork by removing cap screws and nylon washers and sliding shock from shafts.
2. Clamp shock housing (#25) in center hole of Shock Clamp Tool (#10-00760-10). Unscrew end cap (#27) using a 5/16" x 3" pin.
3. Remove shock housing from tool and drain oil. Clean the inside of the shock housing by refilling with Automatic Transmission Fluid or Finishline Shock Oil, and pushing the shaft in and out several times. Drain oil again. Repeat process until inside of shock is clean.

**CAUTION:** Do not use solvent as it will damage the seals.

4. Pull out shaft and piston (#26) and allow oil to drain. Remove O-ring from the piston and Tetra seals from the shock housing and end cap using a dull scribe needle (a straightened paper clip works well). Clean parts and install new O-ring and seals.

**NOTE:** O-ring and seals should be soaked in oil before installing. Be sure the Tetra seals in the shock housing and end cap are fully seated by sliding shaft through holes.

5. Slide shaft and piston into housing. Clamp shaft in tool and reinstall shock eyelet.





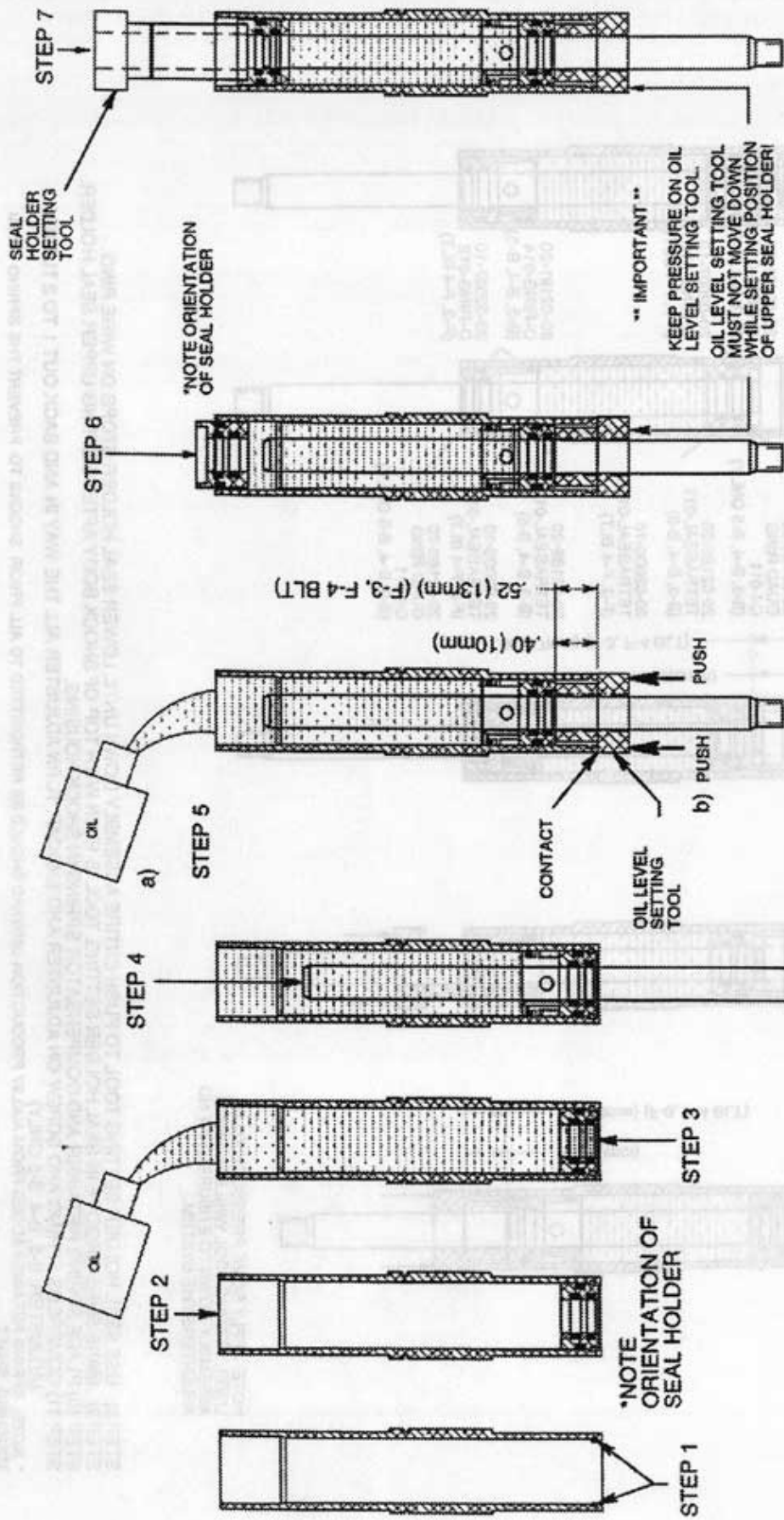
## D. CHANGING SHOCK OIL & SHOCK SEALS (F4BLT)

### TOOLS REQUIRED

- \* 4mm Allen wrench, 10mm wrench, 5/16" x 3" Pin (a 5/16" or 8mm bolt will work)
- \* Vise, Shock Clamp Tool (#10-00760-10), Oil level setting tools F4 (#10-01718-10, #10-01719-10)
- \* Seal kit (#10-04143-10)
- \* Automatic Transmission Fluid (Dexron or Mercon) or Finishline Shock Oil (5, 7.5 or 10 weight)

1. Place wire ring in groove.
2. Push lower seal holder into place against wire ring.
3. Cover hole in seal holder with finger and fill shock body with oil.
4. Slide shaft with piston slowly down through oil until shaft bottoms on lower seal holder.
  - \* **Note:** Keep hole in lower seal holder covered with finger until shaft starts to protrude through. This will prevent most of the oil from draining out.
5.
  - a. Refill shock body with oil.
  - b. Using appropriate oil level setting tool, push lower seal holder up until setting tool contacts shock body.
    - \* **Note:** Do not push up on shaft. Push only on lower seal holder with oil level setting tool.
6. Push upper seal holder into place on shaft.
7. Use seal holder setting tool to make sure upper seal holder is fully seated in oil.
  - \* **Note:** Be careful not to damage outer O-ring on threads in shock body.
8. Use seal holder setting tool to push entire assembly down until lower seal holder stops on wire ring.
9. Make sure groove in seal holder setting tool is even with top of shock body after setting upper seal holder.
10. Place compensator spring in shock housing.
11. Compress spring and screw on endcap.

F4 BLT, B3, B4 & B5 SHOCK ASSEMBLY INSTRUCTIONS



- STEP 1) PLACE WIRE RING IN GROOVE.
- STEP 2) PUSH LOWER SEAL HOLDER INTO PLACE AGAINST WIRE RING
- STEP 3) COVER HOLE IN SEAL HOLDER WITH FINGER AND FILL SHOCK BODY WITH OIL.
- STEP 4) SLIDE SHAFT WITH PISTON DOWN THROUGH OIL SLOWLY UNTIL SHAFT BOTTOMS ON LOWER SEAL HOLDER.
- STEP 5) a. \*NOTE: KEEP HOLE IN LOWER SEAL HOLDER COVERED WITH FINGER UNTIL SHAFT STARTS TO PROTRUDE THROUGH. THIS WILL PREVENT MOST OIL FROM DRAINING OUT
- STEP 5) b. REFILL SHOCK BODY WITH OIL.
- STEP 6) USING APPROPRIATE OIL LEVEL SETTING TOOL, PUSH LOWER SEAL HOLDER UP UNTIL SETTING TOOL CONTACTS SHOCK BODY.
- STEP 6) \*NOTE: DO NOT PUSH UP ON SHAFT. PUSH ONLY ON LOWER SEAL HOLDER WITH OIL LEVEL SETTING TOOL.
- STEP 7) PUSH UPPER SEAL HOLDER INTO PLACE ON SHAFT.
- STEP 7) USE SEAL HOLDER SETTING TOOL TO MAKE SURE UPPER SEAL HOLDER IS FULLY SEATED IN OIL.
- STEP 7) \*NOTE: BE CAREFUL NOT TO DAMAGE OUTER O-RING ON THREADS IN SHOCK BODY.

\*\*\*NOTE:  
WE RECOMMEND USING  
AMP SERVICE TOOLS  
ALTHOUGH REBUILD  
CAN ALSO BE DONE  
WITHOUT TOOLS USING  
THE DIMENSIONS  
SHOWN IN DRAWING.

\*\* IMPORTANT \*\*  
KEEP PRESSURE ON OIL  
LEVEL SETTING TOOL.  
OIL LEVEL SETTING TOOL  
MUST NOT MOVE DOWN  
WHILE SETTING POSITION  
OF UPPER SEAL HOLDER!

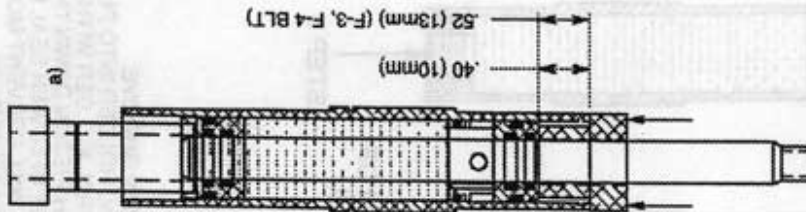
\*NOTE ORIENTATION  
OF SEAL HOLDER

\*NOTE  
ORIENTATION OF  
SEAL HOLDER

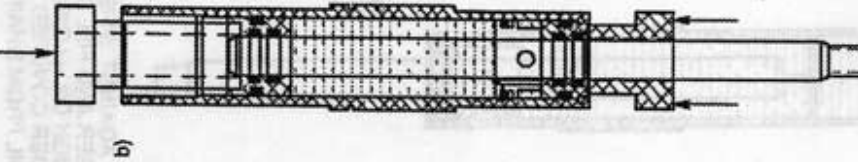


Standard setting 1 turn  
out from all the way in

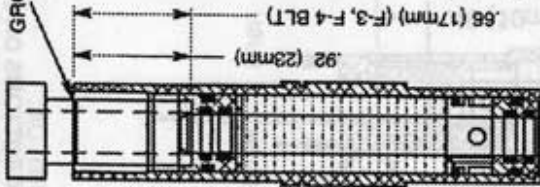
STEP 8



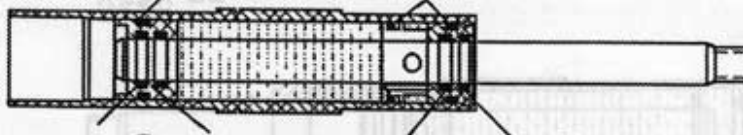
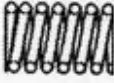
NOTE: APPLY SOME PRESSURE TO OIL  
LEVEL SETTING TOOL WHILE PUSHING  
ASSEMBLY DOWN TO ENSURE THAT NO  
AIR ENTERS THE SYSTEM.



STEP 9



STEP 10



STEP 11

F-4 BLT, B-5  
ENDCAP

B4  
ENDCAP

20-02191-20  
O-RING-014  
(B-3, B-4, B-5)  
20-02007-10  
O-RING-012  
(F-3, F-4 BLT)  
20-02191-20  
O-RING-014  
(B-3, B-4, B-5)  
20-02007-10  
O-RING-012  
(F-3, F-4 BLT)

20-02188-20  
QUAD RING  
Q4-011  
(B-3, B-4, B-5 ONLY)  
20-02189-20  
TETRASEAL-011  
(B-3, B-4, B-5)  
20-02006-10  
TETRASEAL-010  
(F-3, F-4 BLT)  
20-02189-20  
TETRASEAL-011  
(B-3, B-4, B-5)  
20-02006-10  
TETRASEAL-010  
(F-3, F-4 BLT)  
20-02188-20  
QUAD RING  
Q4-011  
(B-3, B-4, B-5 ONLY)

GROOVE

.92 (23mm)  
.66 (17mm) (F-3, F-4 BLT)

STEP 8) USE SEAL HOLDER SETTING TOOL TO PUSH ENTIRE ASSEMBLY DOWN UNTIL LOWER SEAL HOLDER STOPS ON WIRE RING.  
STEP 9) MAKE SURE GROOVE IN SEAL HOLDER SETTING TOOL IS EVEN WITH TOP OF SHOCK BODY AFTER SETTING UPPER SEAL HOLDER.  
STEP 10) PLACE SPRING RETAINER AND COMPENSATOR SPRING IN SHOCK HOUSING.  
STEP 11) COMPRESS SPRING AND SCREW ON ADJUSTER AND ENDCAP. TURN ADJUSTER ALL THE WAY IN AND BACK OUT 1 TO 2 TURNS.  
(ADJUSTER: B-3, B-4, B-5 ONLY)

NOTE: SPRING RETAINER ADDED FROM AUG.97 PRODUCTION ONWARD SHOULD BE RETROFITTED TO ALL PRIOR SHOCKS TO PREVENT THE SPRING FROM TOUCHING SHAFT