

The Park Tool FCG-1 Fork Clamp and Gauge is a tool that provides a means of securely clamping the steerer tube of a fork while checking the fork's alignment or while bending the blades to align them. It is shipped completely assembled and ready for use. The FCG-1 includes a clamping block cartridge to fit 1 inch outside diameter steerer tubes. Optional cartridges are available to fit 1 1/8 or 1 1/4 inch oversize steerers. The clamp portion of the tool is massively constructed to provide powerful clamping and a lifetime of heavy shop use. The sliding gauge and gauge arm shaft are ruggedly constructed precision units. Dropping, bending, or other abuse, however, will affect their accuracy.

### **OPERATING INSTRUCTIONS**

The FCG-1 should be securely clamped in a solidly mounted, heavy duty vise. Clamp on either the vertical web or the horizontal web opposite the cartridge lock knob of the "T" shaped base. Measure the outside diameter of the steerer tube of the fork and check that the matching clamping block cartridge is installed in the FCG-1. Cartridge size is stamped into the end of the cartridge. The cartridge size must match the steerer tube diameter. To change cartridges, unscrew the clamping handle several turns until the pressure plate clears the top block of the cartridge. Loosen the small lock knob on the side of the FCG-1. Slide the cartridge out and slide in the correct size cartridge. Tighten the small lock knob and proceed.

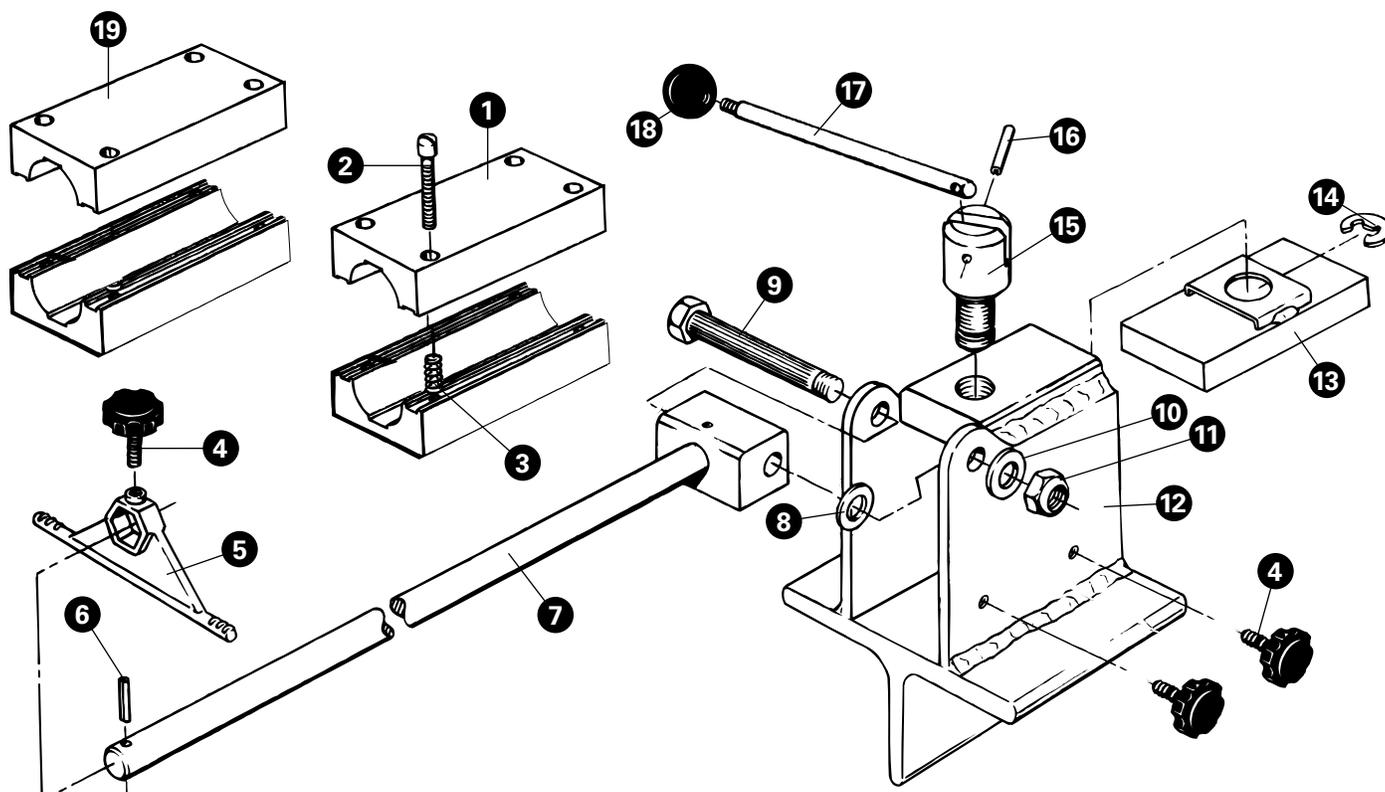
Always raise the gauge arm shaft well out of the way when doing any bending operation to prevent accidental damage to the gauge or shaft. For accurate alignment readings always tighten the lock knob on the gauge to take up any clearance between the gauge and the shaft.

Raise the gauge arm shaft to approximately 45 degrees so the sliding gauge will be above the fork blades when the fork is inserted. Loosen the clamping handle several turns and insert the steerer tube of the fork into the jaws of the clamp. Tighten the clamping handle just enough to hold the fork while still permitting the fork to rotate in the clamp. Loosen the locking knob on the sliding gauge so the gauge is free to slide on the shaft. Pivot the arm shaft down and slide the gauge up the shaft so the gauge arms touch the fork blades just below the fork crown. Tighten the gauge locking knob. Push down on the gauge so that it makes contact with both fork blades and tighten the clamping handle securely.

Raise the gauge shaft and loosen the gauge lock knob. Position the gauge arms in the axle slots of the fork dropouts and tighten the lock knob. With a properly aligned fork, the gauge arms should be in the same position in both dropouts. Raised calibration lines on the gauge arms aid in side to side alignment. An equal number of lines should be exposed on each side. If the gauge shows that the fork is out of alignment, then the fork blades must be bent to align the fork. The Park Tool FFS-1 Fork Straightener provides the leverage and control necessary to bend the blades. After any bending operation, check the fork just below the crown to make certain the fork has not twisted in the clamp. Reclamp the fork (see above) if necessary.

A perfectly aligned fork will be symmetrical over its entire length. The FCG-1 can be used to check this by sliding the gauge to selected points on the shaft and lowering the shaft so the gauge arms touch the fork blades.

The dropouts also should be checked for proper width and parallelism using the Park Tool FFG-1 Frame and Fork Alignment Gauge Set. If width or dropout alignment is changed, fork alignment should be rechecked and the fork realigned if necessary.



## FCG-1 PART NUMBERS

| Ref. # | Part # | Description          | Qty. |
|--------|--------|----------------------|------|
| 1      | 636    | 1" Cartridge         | 2    |
| 2      | 648    | Bolt 8 - 32 x 1 1/2" | 1    |
| 3      | 649    | Spring               | 1    |
| 4      | 259    | Knob and Shaft       | 3    |
| 5      | 160R   | Sliding Gauge        | 1    |
| 6      | 165    | Spring Pin 1/4 x 3/4 | 1    |
| 7      | 646    | Gauge Arm Shaft      | 1    |
| 8      | 645A   | Steel Thrust Washer  | 1    |
| 9      | 645    | Bolt                 | 1    |
| 10     | 205S   | Washer 1/2"          | 1    |

| Ref. # | Part # | Description                  | Qty. |
|--------|--------|------------------------------|------|
| 11     | 233-2  | Thin Nylon Lock Nut 1/2 - 20 | 1    |
| 12     | 643    | Clamp Body                   | 1    |
| 13     | 634    | Pressure Plate               | 1    |
| 14     | 632    | Circlip                      | 1    |
| 15     | 630    | Threaded Boss                | 1    |
| 16     | 109S   | Spring Pin 5/32 x 1 1/4      | 1    |
| 17     | 631    | Handle                       | 1    |
| 18     | 110S   | Ball Knob                    | 1    |
| 19     | 638    | 1 1/4" Cartridge             | 1    |